JÖNKÖPING INTERNATIONAL BUSINESS SCHOOL
JÖNKÖPING UNIVERSITY

Cost-Efficiency in Swedish Defence Procurement

Comparing the view of the Swedish Defence Material Administration and the Swedish Ministry of Defence

Master Thesis within Business Administration

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Kostnadseffektivitet i Svensk Försvarsupphandling

En jämförelse mellan Försvarets Materielverk och Försvarsdepartementet

Magisteruppsats inom Företagsekonomi

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Abstract

The Swedish defence has, during the last couple of years, been under major restructuring that has influenced defence procurements as well. Cost-efficiency has become increasingly important in defence procurement due to higher demand from shrinking defence budgets. The purpose of this study has been to compare the view on cost-efficiency between Swedish Defence Materiel Administration (FMV) and the Swedish Ministry of Defence and to discuss the potential differences. In order to compare the views, the study has looked at what is considered as cost-efficiency in Swedish defence procurement and how it could be achieved. The study has also considered the importance of Swedish defence industry in achieving cost-efficient procurements. For collecting data to make the comparison, focus group interviews were used as data collecting method. The use of focus groups has the advantage of allowing discussion and interaction between the participants. The study includes three focus group interviews, two were made at FMV and the third one was made at the Ministry of Defence.

When comparing the view on cost-efficiency in Swedish defence procurement between the three groups, there are no clear definition of what cost-efficiency is. However, a definition is suggested that combines the view of the three groups into the following definition; cost-efficient procurements should be good enough in order to satisfy the demand of the Armed Forces throughout the systems entire lifecycle. The study also concludes that the objective of becoming more cost-efficient is shared between the Defence Materiel Administration and the Ministry of Defence. However, there are differences on how this objective is to be achieved. The Ministry of Defence wants to use economical measures to make the organization around defence procurement more efficient and thus more cost-efficient procurement. The Defence Materiel Administration on the other hand would like to increase the personnel since that would make it possible to utilize the market in a better way through competitive procurement.

The role of the Swedish defence industry is considered by all three groups as important for international cooperation and is said to contribute to cost-efficiency in procurements since the defence materiel market is characterised by barter transactions. With the intention of involving the industry in more parts of the system lifecycle through Public Private Partnerships, the importance of the defence industry will increase in order to make cost-efficient procurements.

Magisteruppsats inom

Titel:	**Kostnadseffektivitet i Svensk Försvarsupphandling**
Författare:	**Johan Hassel; Tobias Leek**
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Sammanfattning

Det svenska försvaret har under de senaste åren genomgått en stor förändring som även har påverkat de svenska försvarsupphandlingarna. Vikten av att göra kostnadseffektiva försvarsupphandlingar har ökat i takt med en stramare försvarsbudget. Syftet med studien har varit att jämföra synen på kostnadseffektivitet mellan Försvarets materielverk (FMV) och Försvarsdepartementet samt att diskutera eventuella skillnader. För att kunna jämföra synen har studien undersökt vad som anses som kostnadseffektivt i svenska försvarsupphandlingar och hur det kan åstadkommas. Studien behandlar även vikten av en Svensk försvarsindustri är för att åstadkomma kostnadseffektiva upphandlingar.

Det empiriska materialet på vilken studien baseras är insamlad genom fokusgruppsintervjuer. Fördelen med metoden är att den uppmuntrar till diskussion och interaktion mellan deltagarna. Under studien genomfördes tre fokusgrupper, två vid FMV och en vid Försvarsdepartementet.

Vid jämförelse av synen på kostnadseffektivitet i försvarsupphandlingar hos de tre fokusgrupperna visade det sig att det inte existerade någon tydlig och enad definition på begreppet kostnadseffektivitet. Genom att kombinera synen på kostnadseffektivitet mellan de tre grupperna kan följande definition erhållas; kostnadseffektiva upphandlingar ska vara tillräckligt bra för att tillgodose Försvarsmaktens behov över hela systemets livslängd. Studien visar att målsättningen med att uppnå högre kostnadseffektivitet delas av både FMV och Försvarsdepartementet, skillnaden ligger i hur det ska uppnås. Försvarsdepartementet anser att ekonomisk styrning är det bästa för att göra organisationen runt försvarsupphandlingar mer kostnadseffektiv. FMV, å andra sidan anser att mer personal är nödvändigt för att kunna nyttja marknaden effektivare genom konkurrensupphandlingar och på så sätt uppnå kostnadseffektivitet.

Svensk försvarsindustri anses av alla grupper vara viktig för internationella samarbeten och den kan bidra till mer kostnadseffektivitet i upphandlingar eftersom försvarsmaterielmarknaden kännetecknas av byteshandel. Syftet att i framtiden är att låta industrin ta ett större ansvar för systemen över hela dess livslängd. Den nya inriktningen ska ske med olika former av offentlig privat samverkan och där kommer försvarsindustrin att spela en viktig roll för att kunna göra kostnadseffektiva upphandlingar.

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1 Introduction

1.1 Background

Ever since the fall of the Warsaw pact in 1991, defence expenditures have plunged as a result of the decreased international tension (Bishop, 1997). As an example, defence expenditures declined with 30% for western countries during the period between 1990 and 1993 (Hartley, 1997). In addition to the shrinking budgets, keeping a leading edge defence costs more and more, which have put pressure on the defence industry as well as defence ministries within Europe (Bishop, 1997).

Declining defence expenditures as described by Bishop (1997) can also be found in Sweden. As an example, the Swedish defence budget has decreased from 2,6% of GNP in 1991 to 1,6% of GNP in 2004 (Wettergren, 2004). Although the declined budget, the major change for the defence sector has been the new direction for the Swedish defence. This transformation from a defence against invasion to a flexible network based defence is today an ongoing process within Sweden. The demand for a more flexible defence put new requirements on the defence equipment as well. The equipment supply strategy should be developed to meet the newly emerging requirements where needed operative capability must have a greater impact on the procurement of defence supply and the commitment to long-term purchasing orders should be reduced (Swedish Government Bill 2004/05:5).

The internationalisation of European defence industry in late 1990's created, together with decreased budgets and the development of the European Security and Defence Policy, a change in the public defence sector (EUISS, 2005). The shift resulted in increased cooperation between countries and a growing interest in the European Community (EC) defence procurement market. One of the more influential collaborations in Europe is the European Defence Industry Restructuring Framework Agreement (EDIR/FA), which includes Europe's six largest producers of defence materiel Great Britain, Germany, France, Italy, Spain and Sweden (Ds 2004:30). The agreement's aim is to facilitate the restructuring of European defence industry.

In a study by Britz (2004) the question was raised if the Europeanization of the defence sector would not influence Sweden due to its non-alignment policy. Self-sufficiency of defence equipment has been important for Swedish neutrality policy since self-sufficiency creates autonomy and autonomy enables neutrality (Britz, 2004). Due to this, Sweden has had a large and extensive defence industry in relation to the size of the country (Britz, 2004). However, it was suggested that the Europeanization has been smooth in Sweden and that the EDIR/FA has meant that collaboration of defence equipment production could not be considered as a military alliance and thus does not influence the neutrality (Britz, 2004). International cooperation is expressed as precondition for developing defence equipment in Sweden (Swedish Government Bill 2004/05:5). The EDIR/FA is, together with cooperation with the United States and the Nordic countries, described as very important (Swedish Government Bill 2004/05:5).

Defence procurements can through Article 296 of the EC Treaty derogate from EC Public Procurement Directives. Article 296 states that no member state is obliged to share information when essential interest of security exists for producing and trading with war material (EUISS, 2005). Public contracts awarded by a public entity are otherwise required to follow the EC public procurement directives. However, as described above, in accordance

to Article 296 of the EC treaty, it is possible to derogate from EC procurement directives through exceptions (Hjelmborg et al., 2006). Examples of these exceptions could be procurement of explosives, toxic products, armoured wagons, machinery and telecommunication services and equipment (Hjelmborg et al., 2006). The common use of the possibility to make exceptions from EC procurement directives has led to a situation where countries tend to buy from their domestic industry instead of using the international market and that has lead to a less competitive defence market (EUISS, 2005). The poor competitive situation within the defence sector has called for development in the European Community. As a recent improvement, The European Defence Equipment Market was launched on July 1st 2006 and is designed to open up for increased cross-border competition within the EC (European Defence Agency, 2006). This new market builds on the Code of Conduct on Defence Procurement, which is an attempt to unify procurement procedures within the EC. The Code aims at encouraging competition in the defence procurement sector through more transparent and objective standards where award criteria are clearly stated.

The development in the EC concerning defence procurement also has its effects on Sweden. In Sweden, the Defence Material Administration (Försvarets Materielverk, the abbreviation FMV will be used throughout the thesis) conducts defence procurement in order to satisfy the need of the Swedish Armed Forces (Försvarsmakten, the abbreviation FM will be used throughout the thesis). As a government agency, FMV needs to follow the Swedish Public Procurement Act (Lagen om Offentlig Upphandling, the abbreviation LOU will be used) when conducting procurements. Since LOU is the Swedish version of EC procurement directives, it is possible to make exceptions from LOU in accordance to Article 296. The changing European environment and the restructuring of the Swedish defence has meant a lot of changes for defence equipment supply in Sweden. Lower defence budget together with higher demands on flexibility creates uncertainty on the objectives for defence procurements in Sweden. As an example, Britz (2004) found in her study that administrators at FMV wanted clearer signals on what should be dominant, economic efficiency or political-military concerns.

1.2 Problem Discussion

FMV should, on behalf of the Swedish Government, strengthen the operational capability of FM through cost-efficient procurement that will safeguard and assure the development of the Swedish defence in terms of technology and equipment (FMV, 2006). This mandate that has been given to FMV by the Government is interesting from a procurement perspective since it is difficult to say; what is cost-efficient procurement? The term value for money is used in the academic world as a broad goal when discussing public procurement. The term encompasses the three concepts economy, efficiency and effectiveness (Erridge & Nondi, 1994). Economy could be exemplified as bringing economic benefits through price reduction while efficiency is to be exemplified by greater quantity or quality for the same price (Erridge & Nondi, 1994). Effectiveness, on the other hand, is often of less concern in value for money and concerns improving delivery, performance and quality for the desired effects. These three concepts are useful when illustrating the complexity that is incorporated in determining what is cost-efficient.

The Procurement Directives from the European Community intends to create a single market for public contracts with free movement of goods and services on the basis of efficient competition (Hjelmborg et al., 2006). The term efficient competition is something that has previously been less in focus in defence procurement due to protectionist behaviour and the desire to be self-sufficient of defence equipment. However, the new Code of

Conduct on Defence Procurement intends to open up the procurement of defence equipment and increase competition in order to strengthen the European defence industry. In contrast to the promotion of non-discriminatory competition in the EC, the academic discussion of partnering versus competitive bidding in procurement often advocate that partnership procurement gives better result compared to competitive bidding (Erridge & Nondi, 1994). Thus, is competition the way for achieving more cost-efficient procurements or can it be achieved through close partnership with suppliers? It could perhaps be a combination of the two, as for example described by Erridge and Greer (2002), where it is suggested that building relationships and having a competitive market are equally important for the public sector.

Defence procurement brings additional complexity to the concept of cost-efficiency since many countries, including Sweden, try to sustain and develop a certain degree of competence within important defence areas. This brings political aspects that include broader social perspectives, such as labour-market policy and Swedish neutrality policy, which will not be considered in this thesis. However, the aspiration to involve defence materiel procurement and development in more international cooperation results in another interesting question. Does a Swedish defence industry facilitate international collaboration and there through make it possible for FMV to conduct cost-efficient procurements?

The Swedish Ministry of Defence (The MoD) is a ministry that conducts preparatory work for the Government. The MoD has a political leadership but it is the different departments within the ministry that is responsible for operating the day-to-day business (Försvarsdepartementet, 2006). The daily business includes processing of information for Government decisions, contact with and monitoring of the public agencies under MoD's responsibility (Försvarsdepartementet, 2006). The MoD consists of eight departments where the department of military affairs deals with matters concerning investments in equipment, defence related industries and cooperation with other countries relating to defence equipment. The people working within the department of military affairs has, due to their preparatory role towards the Government, influence on the Government policy. The department will thus represent the MoD in this thesis. FMV is one of the agencies that fall under the responsibility of the MoD and FMV's activities are therefore dependent on objectives, guidelines and allocation of resources from the MoD (Försvarsdepartementet, 2006). The people working at FMV interpret and implement the Government policy into procurement strategies and these employees will therefore represent FMV in this thesis. The MoD is responsible for setting the objectives and FMV is responsible for implementing the objectives. As previously described, FMV's objective is to conduct cost-efficient procurements and if there is incongruity between the two parties view on what cost-efficiency is, it is not possible to know if the objective has been achieved. When having a common objective, it is also important that the two parties work in the same direction and it is therefore important to compare FMV's and the MoD's view on how cost-efficiency could be achieved. Without a common path towards cost-efficient procurement, it will be difficult to achieve the objective. It is therefore important to find potential differences between FMV and the MoD and highlight the implications it could have for achieving cost-efficiency in Swedish defence procurement.

1.3 Purpose

The purpose of this thesis is to compare the view on cost-efficiency in defence procurement between the Ministry of Defence and the Swedish Defence Materiel Administration and to discuss the implications of potential differences.

1.4 Research Questions

What is the view on cost-efficiency in Swedish defence procurement?

How could cost-efficiency be achieved in Swedish defence procurement?

What is the role of Swedish defence industry in making cost-efficient procurements?

2 Frame of Reference

The frame of reference intends to provide insight into the public procurement and the supplier selection process within the European Community (EC) and in Sweden, including some important aspects of decision-making such as Life Cycle Cost (LCC). Continuing, the choice between competitive procurement and partnership procurement in the public sector provides both advantages and disadvantages to the outcome of the procurement process, which is discussed later on in this chapter. However, before discussing the procurement process in more detail, it is of interest to consider procurement more in general and compare public and private procurement.

2.1 Procurement

Purchasing in the public sector has developed dramatically during the 1990's and this is due to several reasons such as new management concepts, government policies, increased proportion of revenues spend externally and fewer but larger suppliers (Baily, Farmer, Jessop & Jones, 1998). Essig and Batran (2005) describe the change of public administration during the past 20 years as "New public management". The term refers to new management methods used in an attempt to enhance the performance of public sectors, where new procurement practices are considered to be one of those (Essig & Batran, 2005). The new public management, including management-oriented ideas where the focus is on results rather than the process, has a policy for contracting out publicly funded services (Sundström, 2004).

2.1.1 Public Procurement in Sweden

The Swedish counterpart to the EC directive on public procurement is LOU, which came into force on January 1st 1994 and governs all public procurement in Sweden (NOU, 2007). LOU builds on principles that public procurement should be conducted in a businesslike, competitive and objective manner. Procurement of defence materiel applies to the sixth chapter of LOU (Falk & Pedersen, 2004) and it allows for three procurement alternatives. The first is a simplified procedure where it is possible for all suppliers to submit a tender. The second alternative is a selective procedure where suppliers apply for making a tender and the Public Procurement Entity (PPE) select a pre-determined number of suppliers that is later invited to participate with a tender. The third alternative is direct procurement and can be used if the value of the procurement is low or if there are exceptional reasons (LOU 1992:1528). An example of such an exceptional reason could be essential security interest according to Article 296. The first two are examples of competitive procurement where the goal is to achieve effective competition (LOU 1992:1528). In order to conduct direct procurement the PPE, such as FMV, needs to send a petition that needs to be approved by the Government (Regeringen).

Competitive dialogue is a new procurement method that is part of a new EC directive and is intended to be used in cases where it is impossible to develop sufficient specifications of requirements for using competitive procurement (SOU 2005:22). The use of competitive dialogue allows for more flexibility with respect to the cost of procurements (SOU 2005:22). Details on competitive dialogue could be found in Appendix A. The new procurement method is however not yet implemented in Sweden.

2.1.2 Public versus Private

In some aspects, private procurement and public procurement can be considered to be similar, however, there are aspects that differ as well. A public procurement process is, in comparison to private procurement, governed by legislation that influences its process (van Weele, 2002). In addition, public procurement also needs to be transparent since it has a great number of stakeholders. This, together with different political views that needs to be considered makes the public procurement process more complex and restricted than the private. A Public Procurement Entity (PPE) is responsible for spending tax revenue and the threat of audit generates carefulness in the decision making process (van Weele, 2002; Erridge & Greer, 2002). When looking at the defence sector in more specific, PPEs has been, in comparison to the private side, very nationalistic, which has restrained the cross-border competitiveness (EUISS, 2005).

As a result of the circumstances under which the public and private procurement is operating, it is not surprising that the approach to procurement differ. As an example, Furlong et al. (1994) found in their study of open and negotiated tendering procedures that all PPEs used open tendering compared to the private sector where all but two respondents used negotiated tendering procedures (in Erridge & Nondi, 1994). Open and negotiated tendering could in a simplistic explanation be described as competitive and direct procurement. This will be further discussed below, however, it is important to keep in mind the difference in procurement procedures between public and private sector.

2.1.3 Public and Private

A recent trend in the private sector has been to outsource non-core operations to specialist companies. This trend has also emerged in the public sector as Public Private Partnerships (PPP), where it is a tool for transferring investments and management of traditional government operations and services to the private sector (Parker & Hartley, 2003). The intention behind this new cooperation between the public and the private sector has been to reduce government spending and transfer risk to the private sector (Parker and Hartley, 2003). Although that might sound negative for the private sector it is to be considered as an opportunity to expand into a new market. Creating partnerships between the public and the private sector is increasingly common and Pollitt (2002) discern six motives for this (in Mörth & Sahlin-Andersson, 2006). The first motive is to modernise the public sector, second is to access private financial resources, thirdly it creates legitimacy, fourth it is a way of handling and sharing risk, fifth it is a tool to downsize the public sector and lastly it creates more influence and horizontal relationships between the public and the private sector.

The term PPP is often used to describe a wide variety of financing and delivery relationships between the public and the private sector (Zitron, 2006). The United Kingdom is considered to be the leading developer of PPP initiatives within Europe and the result there has been both good and bad (Zitron, 2006). Yet, considered as a form of partnership, most PPP initiatives in the UK are initiated through a tendering process that aims at selecting the best supplier (Zitron, 2006). The reason behind this is to comply with the EC procurement directives for non-discriminatory procurement.

Hjelmborg et al. (2006) provide an interpretation on PPP projects from an EC procurement directive point of view. Accordingly, partnering between public and private sector can only be initiated once the competitive selection of supplier can be based on an objective basis. Entering into partnering could prove difficult in earlier stages of projects due to lack of sufficient knowledge for enabling competition on an objective basis (Hjelmborg et al.,

2006). However, exceptions can be made requiring the PPE to follow a strict procedure and allow transparency (Hjelmborg et al., 2006). Being a fairly new phenomenon, PPP is still investigated by the European Commission and it is likely that new directives will be developed in the near future (European Commission, 2006). Thus, it is difficult to describe the process of PPP in more detail.

Britz (2006) describes that, from a purely economical efficiency perspective, it would be preferable with a strict commercial exchange but that is not possible in the defence sector and PPPs are therefore considered to be the next best alternative. Britz (2006) also suggest that the closer cooperation between the public and the private sector in PPPs could be difficult to achieve due to the intent to follow the strict commercial procurement directives.

2.2 Procurement Process

The above discussion concerning private versus public procurement introduced some interesting differences between the two. However, the general procurement process in the public sector can be described as congruent with the private sector model (van Weele, 2002). As a brief description, van Weele (2002) presents a simplified five-step model of the purchasing process from a buyer perspective. The first step concerns the decision for making the purchase and to develop the specifications, both technical and functional. Secondly, suppliers are selected and evaluated on a set of criterion. This step includes several different opportunities and possibilities for evaluating and selecting a supplier. In the third step, discussions are conducted between the supplier and the buyer in order to decide on, for example price and delivery. The importance of step four often depends on the contract between buyer and supplier. In many cases, the contract is the order and sometimes ordering is made automatically through integrated IT-systems. The last step is expediting and involves the checking and follow-up on the actual delivery. This step is often dependent on the type of relationship between buyer and supplier. Buying from a new supplier requires more in-depth control of the delivery compared to a delivery from a well-known supplier.

The purchasing process described above is general and describes the private purchasing from a buyer's perspective. As stated by van Weele (2002), several major differences exist between private purchasing and public procurement. Due to this, it is perhaps of importance to look into a more detailed model of public procurement process that builds on the EC public procurement directives.

2.2.1 A Public Procurement Process

The following section aims at describing the general procurement cycle within the EC and it corresponds to the description presented by Bailey et al. (1998). The aim with the EC procurement directives is to create a single European market that allows free movement of goods and services together with effective competition (Hjelmborg et al., 2006). To achieve this, the procurement directive tries to promote an equal treatment of suppliers and transparency in the award procedure (Hjelmborg et al., 2006). This idea behind having a transparent process is to prevent public contracts from being awarded on favouritism.

As described above in the general model, purchasing or procurement decisions starts with the identification of a need. This is also the case of the EC public procurement process (Figure 2-1). In the second step, it is important to acknowledge that because different regulations exist for different values of the procured product or service, an estimation of the value needs to be made before developing the procurement strategy. When identifying

these so-called threshold values, it is important to estimate the value of the entire purchase, such as installation, transportation and components in order to apply the right regulations. Once a need is identified and the right regulations are established, the public procurement entity has the possibility to send out a pre-information notice that alerts potential suppliers of the upcoming procurement, facilitating their preparation for the tendering process.

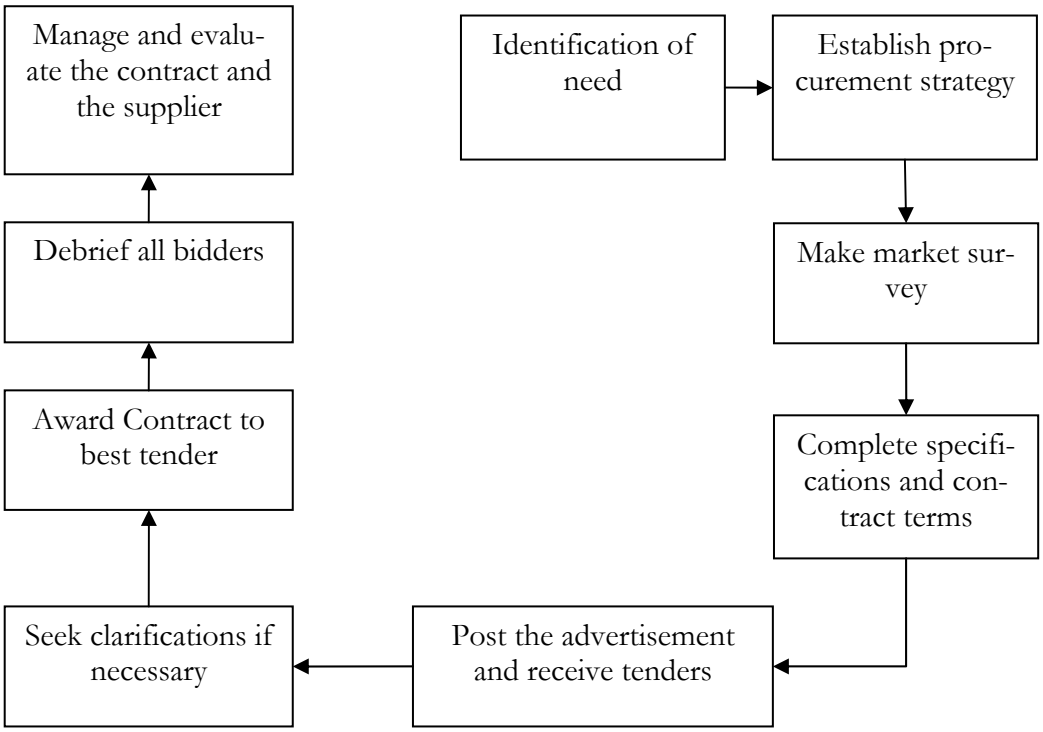

Figure 2-1 EC Public Procurement Process (adapted from Bailey et al., 1998).

Depending on the estimated value and type of product/service, a PPE should adapt corresponding regulations. The regulations influence the choice of procurement strategy, which includes decisions on the type of specifications to be used, contract strategy and evaluation criteria. Specifications can be classified into two general groups, technical and functional. Technical specifications are often much more detailed compared to functional specifications and requires more work when developed. However, with technical specifications it is easier for the PPE to control the product or service it purchases. At this level of the procurement process, the decision concerns what type of specification is to be used rather than the actual specification itself. The selection of contract strategy is very dependent on the type of product or service. Differences exist between public supply contracts, public services contracts, design contracts and public works contracts. Public supply contracts are most common since it applies to the purchase, lease or hire of goods (Baily et al., 1998). The EC procurement directives also require the PPE to clearly state the criteria on which it intends to evaluate tenders. Two alternative options are available, lowest price or most economically advantageous. It is considered as common practice to use the latter of the two. This means that the PPE needs to clearly state its intention to weighting non-monetary factors, such as quality, durability and delivery, against price. In addition to tender criteria, supplier appraisal is also conducted where requirements are placed on the financial as well as the technical capacity of each supplier. It is necessary for each supplier to pass the appraisal in order to be qualified for the bidding.

Surveying the market could follow the establishment of a procurement strategy and means that the PPE tries to find information that is useful for the product/service specifications. It is important that this survey does not favour specific suppliers since that might jeopardise equal competition. Specifications can be, as described above, both technical and functional. The specifications should as far as possible comply with European standards and use terminology that is non-discriminatory. When tender documents are compiled, the PPE should also establish terms and conditions for delivery and payment where it is possible for suppliers to plan the delivery and production. It is also common to develop a price schedule for the payment. Once the tender documents are clearly stated and accepted, the tendering process could start with posting of the tender in appropriate media, which in most cases are the *Official Journal of the European Communities*. The length of the tendering period could differ depending on the circumstances that influence the purchasing procedure.

Evaluation of tenders starts first after the tendering period and during this phase it is possible for PPEs to seek necessary clarifications from suppliers, however, the communication should be kept on a basic level to prevent supplier from getting competitive advantage through dialogue with the buyer. As described by Hjelmborg et al. (2006), negotiations can be made without changing any substantial aspects of the tender. This part in the process corresponds to the supplier selection step in the purchasing model by van Weele (2002). There exist many ways to compare suppliers and tenders in this step and the next section will discuss LCC, which is a common tool used to combine several aspect of a contract into a single figure that is more convenient to compare.

After the evaluation, the best tender is awarded the contract and the PPE should debrief the successful as well as the unsuccessful bidders to ensure that everyone accepts the decision. The final step is to manage the contract and review the procurement process and the supplier, to provide useful feedback for future procurements. To sum up the EC procurement cycle, it is possible to discern three main steps. The first is to establish the procurement strategy, second is to create specifications and award criteria and finally to evaluate and award the contract. The following section will go further into the last step and look at tools useful in the supplier selection process.

2.2.2 Supplier Selection and Life Cycle Costing

Supplier selection could be considered as the core function of procurement (Erridge & Nondi, 1994) and is often a very time consuming process within public procurement since everything has to follow a pre-determined procedure. In order to facilitate evaluation and comparison of incoming tenders, it is common to use tools such as Life Cycle Costing. In more detail, LCC is the process of estimating and accumulating costs over a products entire life (Kaplan & Atkinson, 1998) and it is defined by CIMA (1996, p 30) as:

The maintenance of physical asset cost records over the entire asset lives, so that decisions concerning the acquisition, use or disposal of the asset can be made in a way that achieves the optimum asset usage at the lowest possible cost to the entity. The term is also applied to the profiling of cost over a product's life, including the pre-production stage (terotechnology).

In the definition above, the pre-production stage is called terotechnology, other scholars use it as a synonym for life cycle cost (Dawsons, 1980; Lysons & Gillingham, 2003; Reynolds, 1978). The term terotechnology derived from the Greek verb tereo and stands for 'the art of and science of caring for things' (Lysons & Gillingham, 2003). Life cycle costs are therefore according to Lysons and Gillingham (2003) associated with acquiring, using, caring for and disposing of physical assets, including feasibility studies, research, develop-

ment, design, production, maintenance, replacement and disposal as well as associated support, training and operating cost over the period in which the asset is owned. Al-Najjar and Alsyouf (2004) have divided the included costs in LCC into the following; acquisition cost, operating cost, support cost, unavailability cost, indirect losses, modification cost and termination cost. There are several different aspects and determinants on what is included in the life cycle costs among authors but the main message from all of them are the same; procurement costs are only the 'tip of the iceberg' (Figure 2-2).

Figure 2-2 LCC iceberg (adapted from Ellram and Edis, 1996).

The tip of the iceberg, which is over the surface of water, represents the actual purchase but the larger part of the iceberg is invisible under the water surface and represents all other costs associated with the product. In order to purchase the product that provides best value for money, one has to consider all of the costs associated with the products entire life cycle. Evaluating and comparing products by only looking at the cost of purchase would most certainly not provide the best product. It is therefore of great importance that the entire iceberg is considered when selecting a supplier, especially in procurement of complex defence products. As described by Kaplan and Atkinson (1998), the importance of LCC is enhanced in environments where large planning and development costs, or large abandonment costs, exists (Kaplan & Atkinson, 1998).

The usefulness of a LCC analysis is dependent upon the information captured and handled by the organisation (Woodward, 1997). It is important to consider the expenses with collecting the information and relate it to what it will provide. The information should not be collected because it is 'nice to know', it should be collected because it is needed and can be used. Kaplan and Atkinson (1998, p 565) mentions a trap one should try to avoid; *"if you can't measure what you want then want what you can measure"*. LCC information should involve financial, time related and quality data associated with the capital costs of acquisition, design/operational trade offs and consequential running costs of the asset (Woodward, 1997). Lifecycle data needs to be updated during the lifecycle to facilitate monitoring of the asset performance in operation and provide facts that could be basis for future decision-making. Historical data is a prerequisite for LCC analysis but are only of use to the extent that they are useful in predicting the future. *"The essence of the LCC approach is to obtain, record and use data on current activities but for the benefit of future asset acquisition decisions* (Woodward, 1997, p 342). It is always an element of uncertainty associated with the assumptions and estimations made during the collection process. Woodward (1997) emphasize that the LCC analy-

sis can only be as good as the input data and that considerable thought must go into the design of the requisite information system.

2.3 Competition in Procurement

It can be discussed what should be considered to be a competitive situation. According to Zitron (2006), auction theory researchers suggest that there exists an optimal level of competition because too few suppliers cannot achieve good competition and too many suppliers might reject good suppliers because of the minimal chance of getting the contract. This is perhaps not a clear definition but it emphasises that a fruitful competitive situation is not just to have more than one supplier to choose from. Therefore, in order to manage markets for competitiveness, PPEs must try to balance the market attractiveness. This could be through making the market more stable and consistent, allowing for companies to develop and invest in innovations (Caldwell, Walker & Harland, 2005). The major challenge lies in the capacity of PPEs to create incentives where suppliers are awarded on excellence rather than through sheer volume (Caldwell et al., 2005). It is also important to acknowledge that although large suppliers can be important when shifting the risk to the private sector through PPP projects. Long-term contracts with such suppliers can cause the supplier to become dominant in the power regime (Caldwell et al., 2005).

McAffe and McMillan (1988) describe a number of consequences from having competition when awarding government contracts (in Zitron, 2006). Through competition the price is often lowered, however, it is suggested that the risk management of both parties influences the outcome of the tendering process (McAffe & McMillan, 1988 in Zitron, 2006). Increased competition on the European public contract market is expected to result in a number of benefits for both society and contracting authorities (Hjelmborg et al., 2006). Examples of these are, promoting technology advances, less spending on procurement from public authorities and less corruption and abuse of power in award procedures. Competition is often a good incentive for suppliers to reduce their price, however, competition also has its negative sides.

2.3.1 Problems with Competition

Although competition is important for balancing the power between supplier and buyer, problems might occur due to various reasons. In their research on private sector building contracts Bagari, McMillan and Tadelis (2003) found that competitive auctions perform poorly when projects are complex because contractual design is often incomplete and there are few available bidders. The complexity adds to the difficulty of formulating sufficiently detailed specifications for a good competitive bidding. Furthermore, competitive bidding could stifle the communication between buyer and seller, which could prevent the development of the best alternative (Bagari et al., 2003). This issue becomes more important when discussing public procurement in the EC since limitations exists on the ability to communicate with suppliers. As an example, when the tendering process has been undertaken, no changes can be made to the specifications or the award criteria as that is considered to be unfair and unequal competition (van Weele, 2002). This puts a lot of pressure on the PPE when designing specifications and award criteria. Moreover, it restrains the possibility to develop products with the aid of industrial competence found in the public sector.

One of the case studies made by Caldwell et al., (2005) shows that a major company involved in PPP's in the UK, experience financial problems because many of the contracts awarded were won through excessively low bidding. The problem might be common in the

public-private sector since many of the public contracts are awarded as consortia (Caldwell et al., 2005). Combining the need of many PPEs often results in major contracts that become increasingly important for suppliers. Furthermore, as contracts become larger, it also results in less available suppliers since the large contracts needs a financial powerful organisation, ruling out many small and medium companies. When conducting competitive bidding for supplier selection, it is possible that suppliers try to underbid during the tendering process and afterwards tries to restore their lost margins by cutting corners in their day-to-day work. This could for example be to use low quality material or use less experienced and less costly personnel (Caldwell et al., 2005).

2.3.2 Dealing with Competition

Creating a competitive market could be difficult since many circumstances influence the market. In the above discussion, a few problems were discussed that might decrease the benefits gained from having a competitive market. However, the most difficult situation to handle for a buyer is perhaps when faced with a single supplier. In such a monopolistic situation, the supplier possesses power dominance over the buyer that is difficult to handle with competitive bidding. Caldwell et al. (2005) claims that it is inappropriate to manage key suppliers on contract-by-contract basis but instead manage relationships with a wider horizon through portfolio management of supplier relationships. For public procurement, Bagari et al. (2003) suggest that more costly but effective monitoring could be a better alternative for controlling public procurement compared to today's legislations. The legislative framework could often be considered a problem but in cases of more effective monitoring and less legislations, PPEs can award complex contracts with the flexibility and speed used in the private sector (Bagari et al., 2003).

In contrast with the previous presented case study by Caldwell et al. (2005), another case concerns the procurement of construction works in the UK. One of the major PPEs formed long-term partnerships with 12 regionally based suppliers and their networks. Suppliers were selected on a detailed audit that complied with EC procurement directives. The contract included fixed margins for the next five years and required transparency, open book accounting and other data from suppliers and supplier's suppliers (Caldwell et al., 2005). The interesting here is that the Public Private Partnership (PPP) provided the sector with more consistency, important for creating an attractive environment for suppliers, which indirectly created better means for competition (Caldwell et al., 2005). Continuously, a more consistent business allows suppliers to invest in the future that could result in new innovations and continuous improvements. It also provides the public sector the opportunity to involve suppliers in earlier stages of a project, benefiting from their competence (Caldwell et al., 2005).

When studying PPEs that had implemented closer supplier relationships, Erridge and Greer (2002) found interesting benefits of such implementation. For example, one PPE realised that good supplier relationships gave access to information about the industry that enabled better and faster contract specifications. Furthermore, through better supplier relations, PPEs can have more control over sub suppliers and hence assure better quality (Erridge & Greer, 2002). Thus, it appears from the above that partnerships are a good alternative to competitive procurement and it is perhaps useful to study the concept in more detail.

2.4 Partnership in Procurement

When discussing partnering versus competitive bidding in procurement, it is often advocated that partnerships are more likely to result in efficient and effective procurement compared to competitive bidding (Erridge & Nondi, 1994). However, the EC directives are, according to Erridge and Nondi (1994), emphasising a formal tendering process, promoting many suppliers and supports the maintaining of arm's length relationship with suppliers. Thus, the extreme form of partnership would be difficult to justify when considering the EC procurement directives (Erridge & Nondi, 1994).

Erridge and Greer studied how supplier relations could help to build social capital in public procurements. Social capital could be defined as a complex resource including norms and networks that facilitates collective action to produce mutual benefit (Woolcock, 1998, in Erridge & Greer, 2002). Social interaction between two parties can help to build trust in a relationship, reduce the level of opportunism, increase information transparency and create willingness to cooperate (Erridge & Geer, 2002). On the other hand, increased interaction could create barriers toward non-members resulting in rigidity, lack of new ideas and knowledge. Considering both advantages and disadvantages, Erridge and Greer (2002) suggest that it is question about optimizing social capital rather than maximizing it.

As described above, partnerships are one way to build social capital in public procurement. Social capital could be seen as a way to describe the advantages of a mutually beneficial partnership. In their study of social capital in procurement, Erridge and Greer (2002) found interesting issues from the public sector. First, the greatest influencer on procurement policy and practice is the current EC directives. These directives create bureaucratic procedures that reduce opportunities for developing supplier relationships (Erridge & Greer, 2002). Second, the threat of audit and legal affairs created a risk-averse culture within the public sector that stifled closer supplier relations and made most people unwilling to try new procurement procedures. Furthermore, Erridge and Greer (2002) found that most interviewees were uncertain of the meaning of partnership and supplier relations. This caused even more reluctance towards implementing supplier relations.

Partnership is a term with several different definitions and meanings and that could cause considerable confusion. One could easily believe being involved in a partnership with another party when both are achieving the desired outcomes from the relationship. Lambert, Emmelhainz and Gardner (1996, p 2) define partnership as; "*a partnership is a tailored business relationship based on mutual trust, openness, shared risks and shared rewards that yields a competitive advantage, resulting in business performance greater than would be achieved by the firms individually"*.

In addition to the partnership definition do Humphries and Wilding (2001) want to add; the importance of conflict resolution through joint-problem solving should also be emphasized. Most partnerships share common elements and characteristics but there is no one ideal relationship that is appropriate within all contexts (Lambert et al., 1996). Each relationship is built on its own set of unique criteria and will vary from case to case as well as over time. Lambert et al. (1996) have developed a model for determining whether a partnership is justified, and if so, how close partnership that is necessary. The model consists of three major elements; drivers, facilitators, and components. First, drivers are compelling reasons to partner. Second, facilitators are supportive corporate environments that enhance partnership growth and development. Third, components are joint activities and processes used to build and sustain the partnership. It is important to remember that partnerships may on the one hand be beneficial when the work as planned, but on the other hand, very costly in terms of the time and effort required. Therefore, it is important to ensure that

scarce resources are dedicated only to those relationships, which will truly benefit from a partnership (Lambert et al., 1996). The drivers are unlikely to be the same for both parties, but they need to be strong for both in order to make it work. Lambert et al. (1996) state that the drivers provide the motivation to a partnership, but even with a strong desire for building a partnership, the probability of success is reduced if both corporate environments are not supportive of a close relationship. Furthermore, the more similar the culture and objectives, the more comfortable the partners are likely to feel, and the higher the chance of partnership success. Lambert et al. (1996) emphasize that no partnership can exist without trust, commitment and loyalty to the partnership.

2.4.1 Problems with Partnerships

When discussing problems with partnerships, it is again interesting to bring in a case study from Caldwell et al. (2005). Here, long-term partnerships with suppliers might have negative impact on market competitiveness. A supplier, highly dependent on public business, which is not awarded a contract, might find it difficult to survive until the next period of tendering (Caldwell et al., 2005). This could cause suppliers to cut their bid price under acceptable levels just in order to get business and stay on the market (Caldwell et al., 2005). What is interesting here is that creating long-term partnerships with suppliers makes the market less attractive for other suppliers. Fewer suppliers might be able to remain in the market if the cycles in which contracts are awarded are extended. By removing competition through establishing supplier partnerships, the incentive for suppliers to be efficient might also be removed (Parker & Hartley, 1997). In contrast with problems presented previously for competition in procurement, reducing competition between suppliers might result in opportunistic behaviour and negative power imbalance for the buyer.

Another aspect that can create difficulties in partnerships between the private and the public sector is cultural differences. As described by Erridge & Greer (2002), implementing partnerships in the public-private sector can prove difficult since the culture and processes of PPEs hinder the development of inter-organizational relationships and trust. As an example, employees within the private sector often have personal incentives such as bonuses, which is not the case for most public employees (Moore & Antill, 2001). This might result in different objectives of individuals working in the partnership. Trust is often considered as a central factor when discussing partnership (Erridge & Greer, 2002). As an example, Zitron (2006) found in his study on PPP projects that interviewees generally discussed trust as critical within relationships. However, it was clarified that the meaning of trust could differ between the interviewees and could concern being confident in the counterpart's ability of delivering or continuing in a relationship that currently is poor but is promising for the future. It was previously said that purchasers within the public sector were confused on the meaning of partnership, creating unwillingness to implement the approach (Erridge & Greer, 2002). The same issue might appear for the term trust, since no clear view of the actual meaning might suggest that the lack of trust is to be neglected as a problem if it is not apparent what it actually is. Another organisational aspect that might be different between a public and a private organisation is that they have different stakeholders with different goals. Private sector organisations are often more focused on profit compared to the public sector, which are more concerned about the satisfaction of their major stakeholder, the public.

One of the major drawbacks of close relationships with suppliers is the appearance of favouritism. By excluding other suppliers from competing through favouritism, the result could be that suppliers leave the market and decreases competition with the effect of in-

creased cost (Erridge & Greer, 2002). A common problem that might occur within competition as well as partnerships is that once a contract is awarded, inefficiency can emerge because the pressure from competition has been removed (Parker & Hartley, 1997). It is therefore very important to have incentives that stimulate supplier effort in order to keep the high performance level. This is often considered to be a contractual issue.

The process in the public sector is often considered to be rigid and bureaucratic, thus leading to frustration among private sector companies due to lack of flexibility when it comes to changing requirements. The monitoring of PPEs concerning their compliance with the EC directives reinforces the tendency of following these transparent procedures (Erridge and Nondi, 1994). Hence, the greater risk of public audit might influence the possibility to implement more partnerships in the public sector in a negative way. This risk-averse culture could contribute to the use of competitive tendering in public procurement instead of seeking partnerships with suppliers.

2.4.2 Dealing with Partnerships

Wilding and Humphries (2006) found in their study on relationships in sustained monopolistic situations (2003), often found in the defence sector, that a majority of the respondents in their survey emphasised the importance of personal relationships in buyer-supplier relations. Parker and Hartley (1997) suggest that a number of conditions are required for creating supplier relations in the public sector. For example, supplier selection based on competition and periodic re-competition, clear contractual definitions of responsibilities and measurable contract milestones for improvement. It could prove difficult to develop contracts when information asymmetry exists because it might lead to opportunistic behaviour (Parker & Hartley, 1997).

Competitive bidding is possible when there exists sufficient numbers of supplier for a competitive environment. However, there exist cases when suppliers act monopolistic either when qualified suppliers are limited or when the supplier is selected without competition (common in defence procurement through Article 296). Monopolistic situations and information asymmetry could cause power imbalance in the relationship, resulting in tensions and reduced trust between the two parties that could increase opportunism (Erridge & Greer, 2002). Perhaps the most important issue when dealing with monopolistic situations is to accept the situation and not try to maintain competitive procurement, which is said to have been the case of the UK Ministry of Defence (Wilding & Humphries, 2006).

2.5 Competition versus Partnership

The above sections concerned procurement and advantages and disadvantages with competitive and partnership procurement. It is perhaps difficult to discern the best alternative for public procurement. However, as described by Erridge and Greer (2002), collaborative supply relations and competitive tendering are both important within the public sector. The use of either of the two methods depends on the circumstances surrounding the procurement. Being able to adapt to circumstances and being flexible in procurement situations is important for PPEs. The authors suggest a couple of aspects that are important to consider for developing successful procurement methods (Erridge & Greer, 2002). First, the procedure for procurement needs to be balanced between transparency, value for money and developing relationships with suppliers. Second, by developing new risk management frameworks, the risk-averse culture could be changed that would allow PPEs to work more freely. Rules and regulations are still needed but could perhaps be simplified creating a

more flexible environment. All these suggestions should aim at facilitating the procurement process rather than controlling it (Erridge & Greer 2002). Moreover, decisions on the length of a supplier contract should be balanced between the benefits of competition in the short-term and the advantage of stability in long-term contracts (Erridge & Nondi, 1994). This balance between advantages and disadvantages represents the main issue when discussing competition and partnership and is important to consider before any major procurement.

2.5.1 Transaction cost

Transaction cost is an important aspect in procurements and its proportion in size to the total cost could in complex procurements be a large deal especially in public procurements, where the procurement process tends to be bureaucratic. Bureaucracy is something that is identified by Britz (2006) as one of FMV's greatest weaknesses.

Roland Coase is recognized as the founder of the basics of transaction costs with his article The Nature of the Firm (Dietrich, 1994; Pruth 2002, Williamson, 1975), although he does not use the term 'transaction cost' in his paper (Dietrich, 1994). Transaction cost is defined as (Bannock, Baxter & Davis, 2003, p 384):

The costs associated with the process of buying and selling. These are small frictions in the economic sphere that often explain why the price system does not operate perfectly. Transaction costs may affect decisions by an organization to make or buy (contracting out) and the study of transaction-costs economics, associated notably with Williamson, has implications for a wide range of issues affecting industrial organization, including competition policy.

The definition implies that transaction costs are mainly used for discussions concerning if the firm should produce themselves or if they should purchase from an external supplier. For public procurement the concept of transaction cost is used for discussing costs related to either being involved in a partnership with the supplier or to keep the suppliers on an arms length distance.

Coase (1937) claims that the most obvious cost of organizing production through the price mechanism (a system of determination of prices and resource allocation) is that of discovering what the relevant prices are. Therefore, the cost of negotiating and concluding the procurement must be taken into account. By evaluating the length of a contract with the price mechanism, long-term contracts are in favour over short-term since the associated cost of making each contract will be avoided (Coase, 1937). It is also pointed out by Coase (1937) that transaction costs are treated differently in the private market compared with governments and other bodies with regulatory powers (public market).

2.5.2 Procurement characteristics

Erridge and Nondi (1994) present a framework of procurement models and purchasing characteristics that is tested in the UK public sector. From the study, the authors conclude that the extreme form of competitive bidding is incompatible with achieving value for money due to the detrimental effects of the tendering procedures for low-value items, too many suppliers, short-term contracts and absence of collaboration with suppliers (Erridge and Nondi, 1994). The mixed model presented in the framework could be considered as a balance between the two extremes and could be altered in order to benefit from partnership advantages without violating the EC procurement directives. Hence, competition

could be used for supplier selection while partnership could be actively developed during the contract period (Erridge & Nondi, 1994).

Table 2-1 Procurement models and purchasing characteristics (adapted from Erridge and Nondi, 1994)

Characteristics	Competition	Mixed	Partnership
Supplier selection	Solely tendering	Tendering and negotiation	Negotiation
Length of contract	1 year or less	1-3 years	Over 3 years
Number of suppliers	5 or more	2-5	1
Contractual relations	Very formal and rigid	Fairly formal and rigid	Flexible, informal
Communications with suppliers	Very guarded and sporadic	Fairly guarded but frequent	Open and continuous
Negotiation	Win-lose	Mixed system	Win-win
Joint activities with suppliers	Little or none	Fairly extensive	Very extensive

The comparison that is made by Erridge and Nondi (1994) and presented in Table 2-1 provides a good summary of the previously presented discussion. The three alternatives for procurement bring different types of value to the PPE that is dependent on the context of the procurement. Although, the numbers and figures presented are approximate, they provide a good picture of the potential differences.

3 Method

In our thesis, we compare the view of FMV and the MoD as organisations. Comparing the view of two organisations causes implications since a view is something that is connected to the single person and it is difficult for an organisation to have a view. However, people within the organisation use their view when conducting their work and thus the view of people in an organisation influences the organisation. On the other hand, the organisation influences people working within the organisation. Thus, the view of the personnel and the view of the organisation are closely connected. So, in order to compare the view of FMV and the MoD, we need to look at the personnel in both organisations.

For this thesis, the choice fell on a qualitative study since it is more suitable for creating a deeper understanding for our topic. Qualitative research methods can, *"…help to probe for insights into how respondents see their world"* (Easterby-Smith et al., 1991, p. 71). Probing into government agencies requires first of all access to relevant participants and secondly a good tool for collecting rich and comprehensive data. The use of a qualitative study offers a wide range of possible research methods such as in-depth interviews, group interviews and observations, where perhaps the most commonly used method is in-depth interviews (Easterby-Smith et al., 1991). Although many qualitative researchers prefer the use of in-depth interviews, another less common method caught our interest, namely focus groups. The focus group method is a form of group discussion where data is collected through interaction (Morgan, 1996). With a group discussion, we think that it is easier to find a more collective view on cost-efficiency within each group that could better represent the two organisations. It is our intention that the interaction between participants creates an active interest in the subject that allows a deeper penetration into the subject compared to individual interviews. Furthermore, the group interaction often provides new insights to complex subjects that are invaluable for most studies (Wibeck, 2000).

The study could be considered as evaluation research (Easterby-Smith, Thorpe & Lowe, 1991) since it aims to evaluate and compare the view on cost-efficiency in defence procurement at FMV and MoD. The aim is not to produce a solution as in applied research, but rather highlight differences and similarities and to give recommendations for the future. In order to grasp and better understand the area of defence procurement we conducted a pre-study at FMV where the focus was to learn about defence procurements by looking at different types of previously conducted procurements. The pre-study stretched over one and a half day, where people working with the specific procurements presented the way of working. The pre-study gave a lot of new information and it also created new questions that were useful when collecting the empirical data.

3.1 Focus Groups

The actual name focus groups derive from Merton, Kendall and Fiske's classical book: *The Focused Interview*, where the method was first introduced (Wibeck, 2000). Focus groups are a research method that is designed to gather data on a subject, determined by the researcher, through group interaction (Wibeck, 2000). Morgan (1996, p130) defines focus groups as: "*a research technique that collects data through group interaction on a topic determined by the researcher"*. The definition includes three essential components. First, focus groups are a research method devoted to collect data. Second, interaction is the source of the data and third, the researcher is responsible for creating the discussion. According to Wibeck (2000), the method is often used to study group member opinions, attitudes, thoughts, perceptions

and argumentations. The basic idea with a focus group is that the participants should discuss a certain subject within the group or as described by Morgan (1998a), it is the researchers focus but it is the participants group.

Compared to other research methods, focus groups are unique because it allows for group interaction and greater insight into why certain opinions are held (Krueger, 1994). A major advantage with conducting focus groups compared with interviews is that during a focus group session, participants often ask each other questions. This is invaluable when the research deals with an issue of complex character and the researcher/moderator is not completely certain of all aspects important to the researched subject (Wibeck, 2000). Morgan (1998a) claims that focus groups are one of the best tools for conducting research on topics that are relatively unknown for the researcher. Focus group discussions create a process of sharing and comparing among the participants (Morgan, 1998a). Continuing, the author claims that participants will facilitate the work for the researcher in terms of exploration and discovery as well as understanding things more in-depth within its real context surrounding the topic of investigation. Moreover, participants will also give their own interpretations of the new topics that evolved from the discussion. Focus groups produce large amounts of concentrated data in a short period of time (Morgan, 1998a). There is an obvious trade-off between focus groups and other qualitative methods. Since the participants are supposed to discuss rather freely around a certain topic, a large amount of the data could be irrelevant for the study but, on the other hand, the issues brought up could be of more importance than the researcher have predicted. Conducting individual interviews would provide the researcher with larger amount of information but Morgan (1998a) claims that they would unlikely provide much more information. In order to decide whether to conduct individual interviews or focus groups Morgan (1998a, p33) has presented two questions to consider:

"*Is the additional information that you get in individual interviews a source of valuable insights or a waste of time?"*

"Are the group discussions from groups a more efficient way to get what you want or a serious loss of information about the individual participants?"

Focus group discussions will sacrifice details from individuals in favour of engaging the participants in active comparisons of their opinions and experiences (Morgan, 1998a).

A common myth about focus groups is that it requires a professional moderator, yet, Morgan (1998a) dismisses that myth because he claims it to be more dependent on the situation. However, Morgan does mention that not everybody is appropriate as moderators and that a professional moderator could be useful if you as a researcher do not have the time to conduct the group sessions yourself. One cannot completely dismiss the myth that experience is important, especially when it is directly related to the topics under discussion (Morgan, 1998a). This means that a less experienced moderator could be a better choice if s/he has more knowledge in the specific subject than a professional moderator that has never worked within the subject. The moderator is, however, a critical success factor for the focus groups and is greatly responsible for the results or the quality of the data (Morgan, 1998a). It is therefore extremely important for the moderator to be well prepared in order to respond proficient and handle the situations that could arise during the session. The following sections will describe the four main steps of Focus group research applied to this study.

3.2 Planning

Planning could perhaps be considered to be the most important step for conducting focus groups, especially when researchers use it for the first time, since planning is connected with identifying obstacles and preparing to overcome them (Morgan, 1998b). Thus, it is important for us as researchers to be aware of the difficulties that might appear since it is the first time we use focus groups. Without proper planning, the interviews might fail to provide proper data for the purpose and the advantage of having focus groups might be lost. As described by Morgan (1998b), the planning should include the entire project, from the decision of using focus groups to the final analysis. Continuing, Morgan (1998b) describes important issues to consider when planning for using focus groups.

3.2.1 Degree of Structure

Interviews are perhaps the most common qualitative research method and can be conducted with different levels of structure (Easterby-Smith et al., 1991). Focus groups can also be conducted in a more or less structured way as described by Morgan (1998b). The difference between a structured and an unstructured approach is the level of interaction from the moderator (Wibeck, 2000). Structured focus groups are useful when something needs to be evaluated or when conducting a market investigation (Wibeck, 2000). On the other hand, unstructured interviews are useful when one wants to study the argumentation and the interaction between group members in the focus group or when one wants to discover new ideas and insights (Morgan, 1998b). As in the case of interviews, most focus group researcher tries to find the right combination that fits their purpose (Easterby-Smith et al., 1991; Morgan, 1998b).

When choosing to use moderately structured focus groups, researchers should according to Morgan (1998b), try to balance the researchers focus with the creativity of participants. For this project, it was important to use moderately structured focus groups since we needed to be prepared to lead the discussion if it was slow, however, we did not want direct the discussion if it was not required. Another factor that played an important role for the structure is that both researchers were unfamiliar with the subject compared to the participants who were experts in the field of defence procurement. This called for a more lose structure that allowed a more open discussion. On the other hand, without proper structure the focus groups might end up with useless information if the wrong topics were discussed. It was therefore important to prepare for conducting both structured and unstructured focus groups in order to allow flexibility once the focus group discussion had started. The mixture in approach to structure in this study is to be considered as a moderately structured focus group.

3.2.2 Group Composition

It was said earlier that planning is important for the focus group concept. However, what is perhaps even more important is the focus group itself. Without a proper group composition, all other decisions might become irrelevant since the focus group is the source of data (Morgan, 1998b). When it comes to sampling strategies, focus groups are different from most other qualitative methods since it uses purposive samples (Morgan, 1998b). This means that participants are chosen according to the purpose of the project. Continuing, Morgan (1998b) suggests that the groups should be as homogenous as possible in order to generate a fruitful discussion. Wibeck (2000) recommends that researchers should use homogenous groups if they want a high exchange of information. It is suggested that when

the goal is to compare opinions of people with different backgrounds it is useful to keep the separate group homogenous and than compare it with another group containing people with a different background. In this project, the sampled group were employees at FMV and the MoD.

One important aspect to consider when discussing the group composition is whether the participants should be acquaintances or strangers. When studying an organisation it is often inevitable that people within that organisation are acquaintances. As described by Morgan (1998b), the question is if there is a choice of separating between strangers or acquaintances. FMV is a relatively large organisation (1800 employees) with many different departments (FMV, 2007), however, in their procurement FMV often uses cross-functional teams. This suggests that many people might have met or worked together before. Although, it would perhaps have been possible to investigate if participants were strangers or acquaintances, the time consumed and the restrictions it would have implied on group composition would have made it impossible to conduct focus group interviews. Taking this into consideration, the participants in each focus group is assumed to be acquaintances leading to more or less homogenous groups.

The size of each group is dependent on the subject knowledge of participants. The more knowledge or emotional involvement the participant has in the subject, the more s/he has to say and therefore requires more of the total time available (Morgan, 1998). Wibeck (2000) suggests that each group include between four and six group members. Participants in this study are people working daily with defence procurement and related areas and are to be considered as experts within the field. It was therefore assumed that each participant had a lot to say and the group size could therefore be reduced. The limiting factor for the group size was the recruitment of participants. It was assumed that it would be difficult to recruit a vast number of participants and the aim was to get at least 4 participants to each group. This was achieved for all three focus groups, where the first group had five participants, the second group had four participants and the third group had five participants.

The final planning for group composition concerns the number of focus group interviews that should be conducted. There exists no real guideline for the number of groups required for a successful study, but Morgan (1998b) suggest that a more complex subject together with a divers set of participants calls for a greater number of focus groups. According to Wibeck (2000), the minimum number of groups for a successful study is three. However, it is also suggested that the researcher should be able to decide if more groups are needed once the first set of interviews have been conducted (Morgan, 1998b). As mentioned earlier, three focus group interviews were conducted. It is our opinion that three focus group interviews is sufficient for our study, however it would have been interesting to additional ones. The ability to initiate additional focus groups after the first ones have been conducted would be difficult since the recruitment process requires at least three weeks planning in advance and it would be almost impossible to have the same participants again, especially at the MoD. It was discussed during the planning of the study if an additional focus group were to be conducted at FM but it was decided not to since it would have widened the focus of the study and made it too broad.

3.2.3 Recruiting

The following subsection is inspired by the suggestions for recruitment of participants that was presented in Morgan (1998b) and Wibeck (2000). Getting in contact with potential participants could sometimes be difficult due to limited access and time restrains (Marsh and

Stoker, 2002). The recruiting process was however facilitated by Per Skoglund, the initiator if this thesis. Per is a doctoral student at Jönköping international business school and combines that with working at FMV. Per has worked as a sounding board throughout this study and in the recruitment of participants, Per helped us with recruiting participants for the focus groups. Together with Per, we discussed the type of participants that were of interest and it was decided that each participants should have some experience with procurement of more complex defence materiel and that they would have conducted both competitive procurement and direct procurement. Through discussion, it was decided that two focus groups were to be conducted at FMV and one at the MoD. The reason for this is that FMV is a much larger organisation, with approximately 1800 employees (FMV, 2007), in comparison to the MoD that has approximately 150 employees (Försvarsdepartementet, 2007). It was also decided that representatives from both the commercial and the technical side of FMV should be included. The first group is therefore called the commercial group since the participants were connected to the commercial side of FMV. The second group is called the technical group since it has representatives from each department at FMV that represent the technical side of FMV. At the MoD, Per helped us establishing a contact, to which we presented our study and the idea behind focus group discussion. The contact person helped us recruiting participant for the group session. The department of military affairs is, as described, responsible for defence procurement at the MoD and the participants were recruited from this department and it would have been difficult to find participants relevant for the study outside this department. It is also important to stress that the group did not include politicians. This third group is called the MoD group.

3.2.4 Location

When choosing a location for the focus group meetings, one should try to satisfy the needs of both researchers and participants (Morgan, 1998b). The major concern for researchers is the actual layout of the room where for example the design of the table plays an important part (Morgan, 1998b). A round table allows eye-to-eye contact between participants and everyone can feel equally important. A long narrow table might make people feel less active and important for the discussion. It is therefore important to consider these aspects, however the small size of the groups might reduce the negative aspects of not having a round table. The major concern for participants is the convenience of the location (Morgan, 1998b). It should be easy to access and the effort of reaching it should be minimal. It was therefore decided that the focus groups were to be held at FMV and the MoD premises respectively.

3.3 Interview Material

In the previous section it was decided to use moderately structured focus groups. According to Wibeck (2000), the degree of structure influences the layout and the detail of the interview guide. Perhaps the most important function of questions in a focus group is to create a good conversation. In order to do this, the language needs to be appropriate for the intended audience while the question itself should be direct, simple and forthright (Krueger, 1998a). Having longer questions including several dimensions is confusing for participants and should therefore be avoided.

3.3.1 Topics and Questions

It is often difficult to generate good and understandable questions and that is why it is important to seek help in reviewing and developing questions (Krueger, 1998a). Through discussing our questions with our supervisor as well as with our contact at FMV, Per Skoglund, we hope that the questions for the focus groups were written and formulated so that they facilitated the conversation. In addition to having simple and understandable questions for the participants, it is also important that the moderator is comfortable with them. Having a comfortable moderator creates trust and comfort among participants (Krueger, 1998a) and we think that this was achieved by having us as researchers to take the role of moderator and observer.

The pre-study at FMV was of vital importance while formulating the questions, since many of the problems discussed throughout this report were emphasized of the participants from the pre-study. The pre-study helped us understand the complexity connected to the area of defence procurement and it was also decisive for us when asking follow up questions during the focus groups.

In contrary to developing full sentence questions, one could use a topic guide that includes key words and key phrases that should be covered during the session. Professional moderators often use this type of guide while a question guide is more common in academic studies (Krueger, 1998a). Although a topic guide is more conversational, we will use a question guide when moderating since it enhances consistency, facilitates the analysis and allows for testing before use. The questions should be formulated into open-ended questions that allow participants to determine the direction of the response (Krueger, 1998a). The structure and the development of our question guide is further discusses in the next section.

3.3.2 Question Guide

In order to develop a successful question guide there are five categories that, according to Krueger (1998a), should be included for having a good flow in the interview. The first category is opening questions, which should be an easy and encouraging question that makes all participants comfortable in talking early on in the session. Introductory questions are the second category and aims at introducing the topic. In the third category, named transition questions, the intention is to connect the participants with the topic of investigation. The fourth category is perhaps the heart of the interview since it includes the key questions that are important for the study and the analysis. These are the questions that should be developed first and closely connected to the purpose of the study. Ending questions are not surprisingly the fifth and last category. The aim is to allow participants to reflect on the previous discussion and add on important aspects that might have been missed. These ending questions are, as the key questions, important for the analysis since they highlights what has been most important for the participants.

Even though the question guide is pre-determined, the previous decision to use moderately structured interviews gives the opportunity to probe into interesting aspects that might occur during the focus group discussion. This is very important since we are no experts in the subject and it was therefore essential not to follow the question guide too strict. The question guide can be viewed in Appendix B and it is important to consider that we included potential follow up questions under each key questions to be prepared if the discussion were slow, or to probe deeper into an interesting subject. However, we tried to be as consistent as possible with the questions in order to have similar structure for all focus groups.

3.3.3 Stimuli Material

To promote a discussion and create interest in the topic among participants it is often useful to send out a stimuli package before the focus group session (Wibeck, 2000). We did not use stimuli materiel in this study. It could have made the participants more attuned with the subject, however it is possible that they already had a lot of thoughts around the subject since it is included in their daily work and that a stimuli material would not add any extra to the discussion.

Stimuli material could also be used during the actual focus group session if the discussion is going slow (Wibeck, 2000). This opportunity was used in order to stimulate the discussion on partnership versus competition (see Appendix B). It is our opinion that the use of stimuli during the focus group session allows participants to focus on something while talking, making it easier to discuss and perhaps generating new ideas and thoughts. In the third focus group, additional stimuli material was used during the session. This was to facilitate the discussion on the questions that was perceived as difficult to answer in the previous two groups. Yet again, this causes an inconsistency between the three groups, but it was decided that it was necessary since getting good information was seen as more important than having an exact consistency between the three groups. In the end, it would have been difficult to achieve consistency anyway because the group composition and the discussion influence the outcome of the group session very much.

The stimuli material used during the focus groups had a positive effect on the discussion and the participants often used it when giving examples. The discussions from the questions related to the stimuli material were extra rewarding when the participants disagreed or had another apprehension to the subject.

3.4 Moderating

Moderating a focus group is often a very difficult task and it is important for the moderator to be flexible in order to adapt to the social context of each group (Wibeck, 2000). The complexity and importance of choosing right moderator could be explained with the following statement from Amy Andrews (1977) (cited in Krueger, 1994).

"Since half of the moderator's function is to stimulate and guide the group, a knowledge of group dynamics would seem to be an important criterion for selection. For example, the moderator must know how to deal with a quiet, passive group, an overly exuberant group, an outspoken group member, a group member who is unqualified, a group which consistently goes off on a tangent, a group which appears to be given inconsistent responses, a group which does not understand the question, a group which misses the point completely, a group which is inarticulate, a hostile group member, a nervous, tense group discussing a sensitive subject, etc".

It is important for the moderator to be an active listener without risking his/her neutral role (Wibeck, 2000). Krueger (1998b) has identified three considerations that are critical for the moderator; friendliness, a permissive approach and a non-threatening environment. However, individuals express these in a variety of ways. This further emphasizes the importance of being a flexible moderator and having the ability to adapt to any unpredicted situation that might appear. Since it was previously decided to use a moderately structured approach, the moderator in our study tried to follow the interview guide without interrupting the discussion except if it was taking too much time or if it was completely out of the subject. If the discussion was slow, the moderator tried to use the pre-determined follow-up questions in order to get the discussion back on track.

One of the most important factors for a moderator is to truly believe that the participants have valuable wisdom and insight to share no matter what background they may have (Krueger, 1998b). It is essential for the moderator to remember this after completed a few focus groups and starting to understand the subject, even though participants are repeating the same issues. If not, the moderator could send out signals of being arrogant, which could inhibit the procedure. The moderator need to have a high degree of self-discipline and stick to the role as moderator, not getting engaged in the discussion and reveal his/her views (Krueger, 1998b). Participants could, if they feel judged by the moderator, be confused and that restrain their continuous expression of views. It is a potential benefit that we as researcher/moderator are not directly involved in the organisation under investigation and that we are not influenced by existing culture, as a moderator with more knowledge of the subject would have been.

When the participants arrive before the focus group, it is important to create a warm and friendly environment. Conversations about everyday topics, such as sports and weather, with the participants have proved to be successful according to Krueger (1998b). Krueger does, however, clarify that topics to be discussed during the session should be avoided. The conversation before the session provides an excellent opportunity for the moderator to observe the social status and interaction among participants. As an example, people that tend to talk very much before the session is likely to dominate the conversation during the session. Dominant participants should be seated at the moderator's side if possible (Krueger, 1998b). Then the moderator could turn slightly away from the dominating individual and look at less talkative participants, thereby giving them a nonverbal and diplomatic signal for others to talk (Krueger, 1998b).

In the beginning of the session, the moderator should try to create a good atmosphere among the participants by stating the objectives with the focus groups and the purpose of the study (Wibeck, 2000). In the beginning of each focus group, we tried to clarify that we are no experts in the subject and that we are very interested in the participants thought concerning defence procurement and that the primary objective with the focus group is to have a good discussion. Moreover, we tried to create an open atmosphere by stating that there are no correct or incorrect opinions and that the respondents were to be anonymous in the report. In addition to this, we tried to briefly describe what focus groups are and then shortly describe our research without giving away details about our specific area of interest.

The moment after the introduction is a critical moment in the session according to Krueger (1998b) for two reasons. First, all participants should say something as soon as possible. That is why the first question is called an icebreaker. Once a participant has said something it becomes easier to speak again. The first question should, therefore, be answered shortly of each participant. Second, the moderator should avoid situations that invite participants to ask questions because they will probably want more information e.g. who else have we talked to, what we have found so far, what we expect from this information and so on. We tried to get around this by asking a brief question where each participant could describe what their current position is. This was also crucial for making the transcription of the focus groups, in terms of separating who said what.

During the session, Krueger (1998b) stress the weight of using the 5-second pause. One reason is that the moderator should not pressure participants on quick answers rather give them time to reflect and think before answering. It could also elicit more comments on a specific issue.

3.4.1 Equipment

The use of recording equipment could perhaps be considered as a trivial thing but it is still important to report on the tools we used. In order to make sure that the focus group discussion was caught on tape, we used two recording equipments in form of mp3-players. In addition to the recorded material, the observer also took notes during the session. Each session was approximately 2 hours.

3.5 Analysing

When analysing qualitative data it is important to be open for new ideas and alternatives. In comparison to analysing quantitative data, qualitative data often consists of words instead of numbers, which makes it more difficult to interpret. Analysing focus group data requires a disciplined process with systematic steps (Krueger, 1998c). Examples of systematic steps are given by Krueger (1998c) and includes the use of the interview guide, capturing data, participant verification, debriefing between moderator and observer and share preliminary result with stakeholders and participants.

One aspect that increases the complexity of focus group analysis is the interaction between participants. Although this is not the major focus for this study, the silence from one participant can mean that s/he complies with the speaker or that s/he has no opinion (Krueger, 1998c). Furthermore, analysing word can be difficult since they can mean different things for different people. However, according to Krueger (1998c), the meaning of words can often be considered as consistent within a group but might differ between groups. Adding to this is the fact that the group interaction could make participants change their view or opinion during the interview and it is therefore important to consider the entire interview rather than taking out single quotations as main focus of an analysis.

Analysing should try to find patterns in data and compare data internally and with theoretical aspects. Comparison within a focus group is interesting but it is often considered to be of more interest to compare focus groups with each other (Krueger, 1998c). There are according to Raush (1998) two ways of analysing the content of focus group data (in Krueger 1998c). On the one hand it could be through horizontal analysis where common aspects from the groups are in focus. On the other hand through vertical analysis where the internal group discussion is in focus and the similarities are later determined in the conclusion. Horizontal analysis is best when having multiple groups with participants of similar background (Raush, 1998 in Krueger, 1998c). Our main thinking when conducting the analysis was to compare the different groups with each other, in a horizontal analysis, to find similarities and potential differences. However, it is not possible to neglect interesting aspect that might not appear in more than one group and therefore it could be discussed if the analysis in this thesis is more of a mix between horizontal and vertical analysis since we tried to analyze each focus group separately before comparing them.

3.5.1 Transcription

One of the more important decisions for analysing is the choice of analysing strategy. The analysis can range from being transcript-based to be based on the actual memory of the moderator and observer. However, these could be seen as extremes on a continuum where the different strategies are plotted depending on time intensiveness and being more or less rigorous in analysing (Krueger, 1998c). The use of a full transcription based analysis could be considered as less important for this study since our focus is not the social interaction

but rather what is being said. Nevertheless, the transcription must be sufficient in order to allow others to make the same interpretations of the focus groups. It was therefore decided that the analysis strategy should include a moderately detailed transcription of each focus group. According to Linell (1994), three levels of transcription can be discerned (in Wibeck, 2000). The first level is very detailed including exact words, hesitations, stressed words, length of pauses, strength and speed. Level two is also relatively detailed and includes many of the things mentioned above but with reduced detail and slightly rewritten to better comply with a written language. The third level is less detailed and is formed into written language with completed sentences. The use of the first level of transcription is often not useful and the best alternative is to use a mixture of the second and third level in order to capture the essential aspects of the interview (Wibeck, 2000). Here, it is important to remember that the transcription could include analysis and interpretations by the researcher and it is therefore important to listen to the recorded interview and look at interview notes in order to validate the transcription (Wibeck, 2000). We tried to transcribe the material according to the recommendations given by Wibeck (2000) and transcribe in a word-by-word fashion without taking into consideration pauses and hesitations. It is possible that errors might be included in the transcribed material. Once we had transcribed all focus groups in a word-by-word fashion we used it as a manuscript when listening through them again. By this way of handling the material, the possibility for making mistakes should be minimized.

3.5.2 Structuring the data

It is central to the analysis process to find patterns, compare and contrast with theoretical models (Wibeck, 2000). However, this can prove very difficult since focus group interviews tend to produce a large number of data. In this report we tried to organize the material into the main groups of interest for this study. This was done in classic style with the use of marking pens and the computer (Krueger, 1998c). This approach is simple and it allows a straightforward way of categorising the material.

The categorization of the data was made once listening to the tapes. As written before is the interaction between participants crucial for focus groups and therefore is it equally important not to forget it during the analysis. When categorizing the material as we have done is it important to remember when the different answers were given and to what question. The participants may say something they did not mean or they misunderstood the question. By categorizing the data while listening to it reduces the chance for modifying the contents.

3.6 Credibility of the Method

The choice of method has a great influence on the result of the study and it is therefore important to reflect upon this issue. There are many questions that need to be answered; did the researchers choose the right method and did they collect sufficient information? The aspects related to the area of defence procurement are comprehensive and it could prove difficult to ask the correct questions. Focus groups have the advantage over in-depth interviews that the participants discuss the subject with each other instead of just answering the question as in traditional interviews. The pre-study helped in understanding the subject and the problems currently existing within the subject of defence procurement.

In the study we used the minimum number of focus groups (three) and it would of course have been interesting to have additional focus groups that would have made the comparison more representative for the two organisations. There were in total 14 participants in-

volved in the focus group interviews, each one with an individual view on cost-efficiency that could have influenced the other participants. However, since each participant is involved in the subject of defence procurement almost every day, we think that the view on cost-efficiency and how it can be achieved is stable. Thus, the view of the group represents the general view of the participants.

Returning and reflecting upon Morgan's questions raised in section 3.1 can facilitate the understanding of our perception of the chosen method;

"*Is the additional information that you get in individual interviews a source of valuable insights or a waste of time?"*

"Are the group discussions from groups a more efficient way to get what you want or a serious loss of information about the individual participants?"

When considering the first question it is important to evaluate if the discussion that followed the question rendered into new valuable information or if it just led to repetition of the first answer. During the sessions, participants continuously completed each other's answers and gave additional information into them. It could sometimes be information that was irrelevant for the study, but most of the time it resulted in more depth to the answer. To answer the second question, the interaction between participants is one of the strengths with focus groups and in our case it truly elicited valuable information for the study. One could almost claim that the participants started analysing the data during the discussions thanks to the interaction. We are almost exclusively relying on the empirical data from the focus groups and elaborating too much with it could harm the trustworthiness of the study. The major part of this study has therefore been to structure the empirical data without taking it out of its context.

With the answers given to Morgan's two questions we believe that the chosen method has been good for the fulfilment of the purpose and that it has given additional information invaluable for the result of the study.

4 Empirical Findings

As described in the previous chapter, the empirical data was collected through three focus group interviews. The following chapter intends to outline the data from each focus group separately. However, before presenting the focus group data it is of interest to describe the chain in which FMV, FM and the MoD are organized.

4.1 How Sweden is Governed

The following section will briefly describe the governing process and the different entities that is relevant for defence procurement. The section is built up by information found at the homepage of the Swedish Government (Regeringen, 2007). Sweden is a parliamentary democracy where the Swedish Parliament (Riksdagen) represents the people at the national level. The Government (Regeringen) implements the decisions made in the Parliament and draws up proposals for new laws and law amendments. After the election period, the Parliament appoints a Prime Minister that will lead the Government for the following four-year period. The Prime minister is responsible for appointing the other ministers in the Government. There are in total twelve ministries in Sweden, each led by a minister. The appointed minister becomes the Head of Ministry with a staff of selected political appointees. However, the majority of the employees at each ministry are not political appointees but public officials and retains their position regardless of the political orientation of the Government. The public officials assist the Government in supplying information for decision-making and by conducting inquires into both national and international matters. In addition, the ministries are responsible for supervising the public agencies and producing the basis for the annual appropriation directions. This is a directive that puts an appropriation at disposal for the government agencies and specifies the allocation of the appropriated funds.

At the MoD, the Head of Ministry is currently Mikael Odenberg. The MoD is responsible for a total of 11 government agencies. It is the ministry's task to decide upon objectives, guidelines and allocation of resources for the agencies activities. However, they should not decide how a law should be applied or what decisions to make in specific cases (Lundquist, 1992). FMV is one of the government agencies that are under the responsibility of the MoD.

4.2 The Commercial Group

4.2.1 Cost-Efficiency

When discussing cost efficiency, the group said that FMV should be concerned with defence policy and should not consider the economic policy of the State. This was interpreted by the group as what is most cost-efficient for FM. Cost-efficiency is said to imply that it is important to economize with tax money and at the same time get as much out of that money as possible. The defence procurements are considered to be so complex that more liberty of action would be necessary in order to conduct cost-efficient procurements and there through utilize taxpayer's money. This is said to be difficult with the current regulations. The group perceive that there is a clear intention from the government to use the market as much as possible and that FMV should try to find an existing market solution in every situation. "*If that is the same as increased use of competitive bidding in all procurements is difficult*

to say but it is important that the market is used as far as possible". One of the major problems that the group emphasises is that FM and FMV are stuck with systems where a large amount of investments have already been made and it is important to make use of these investments. *"The cost for further development of existing systems will probably be higher than if the market was utilized in a more efficient way"*.

4.2.2 Competition

The focus of LOU and the policy documents are according to the group that the market should be utilized as much as possible and that all procurements should be made through the use of competitive procurement. The group thinks that it is possible that a competitive situation ends up in a monopolistic situation since the customer often get restrained to the supplier. The only thing that is said to actually put pressure on the supplier to make an effort is the threat of competition. *"An offer that has been made in competition with other suppliers look different compared to an offer made where a supplier is aware of its monopolistic situation"*. By utilizing the already existing market the group thinks it is easier to know that the product will work and it allows for sharing of development costs with other customers. The group says that it is unnecessary to reinvent the wheel and that that the market will often be small for such a product. *"One often hears that a supplier has a unique competence or that it is the only one capable of performing the task and the best way to test that is through competitive procurement"*. The group thinks that competition results in increased quality when considering it in a longer perspective.

The group emphasises the importance of making good specifications when conducting competitive procurement and that it is seldom that a supplier is best in all categories if it is not an already existing product. *"The most important preparatory work is to develop a procurement strategy"*. The need for good preparatory work is said to put high demands on FMV when developing evaluation criteria and weightings of these criteria so that it results in the best solution. When making the specifications it is also important to include an evaluation of supplier's ability to understand and fulfil their commitments in order to screen out doubtful suppliers. *"One disadvantage with competitive bidding is that it requires a very good knowledge of the market since it is very difficult to deviate from the specifications"*. The groups says that it is possible to send out a RFI (Request For Information) before entering into a competitive bidding process, however it is not possible to discuss with suppliers before developing the specifications and there are no communication with suppliers in the early stages of the procurement that is said to open up in the later stages

"The defence industry is an oligopoly market and there is a risk that some suppliers makes incorrect offers with the intention of directing the contract to a specific supplier, a form of cartel business". The group highlights that there are many cases in which FMV are not able to conduct competitive bidding since already made investments binds them to a specific supplier, for example a complementary order for the JAS Gripen system. *"What often gives the best result in competitive procurement is a system that integrates different existing products"*.

What is usually considered as free competition is said not to exist within the defence sector, not even on a global market, since there are political aspects such as subsidizes from the state to the industry. *"It could appear to be free competition but the price is not completely under competition if it does not concern consumable supplies"*. Another imperfection on the market is said to be the common use of offset. *"The demand for offset is often something that hinder foreign offers since the Swedish offers does not have to deal with those issues"*. The group also describes that there is a different view on competition within Europe, where Sweden claims that there should be a

global competition while other European countries wants competition within Europe. *"Many countries have a defence industry that is partly owned by the state and there is a greater reluctance towards increased competition, one wants to support the domestic industry".*

4.2.3 Partnership

Procurement of complex systems are said to be like a partnership since it creates a mutual dependence that is incrementally increased. *"When choosing a complex system it also includes a choice of infrastructure that will last for several years. It is a choice of resource base as with the JAS system where the choice was an industrial network that developed the product". The competence only exists at that supplier and it does not matter what type of licence you have to go to that supplier. If there is a need to upgrade a complex system where you have spend billions of crowns into earlier, then it is not just to go to the market. It has to be compatible with the original system".* Complex systems often has a lifecycle of 30 to 40 years and there is both industrial as well as defence policies involved in the choice of materiel system. It is said that when considering the total value of all procurements, the majority of the value goes through contracts where suppliers has been directly approach due to political reasons, maintenance reasons and regulatory reasons that is concerned with responsibility of construction. It is therefore considered as impossible to change supplier for complementary orders or development of investments that has already been made.

When directly approaching a supplier the group claims that there is more freedom to discuss with the supplier compared to a competitive bidding process. *"In a closer relationship, supplier could be used as a resource rather than as a supplier, where both parties mutually develop solutions during the project".* The group emphasises that monopolistic procurements is not a synonym with directly approaching a supplier because in a monopolistic procurement there is only one supplier to chose from while when using a direct approach it is theoretically possible to go to another supplier due to different reasons.

A partnership is said to work when there is a common long-term goal. *"The industry works well with us if we can in return help them to increase their total market, if we are on the other hand their only customer they focus on exploiting us as much as possible".* It is said that if the supplier can see that there is money to earn, the collaboration is often useful for FMV as well. Most projects are said to run for many years and that it is common that new solutions and technology appears during that time and if there is a good relationship, it could be possible to implement that new technology. It is said that both parties can benefit from the new technology and that it favours both quality and economy.

The group thinks it is important to conduct a solid preparatory work before entering into a partner relationship with a supplier. It is said that one must assure that the project is suitable for such a relation. *"It is useful to have a strict relation with the supplier until the contract is signed. After that, one can enter into a new phase where it is important to understand and solve the common problems".* If the collaboration stretches over several years it is said to be important to share information in order to make it good end effective. *"A partner relationship with someone that you fit well with can work as a lever in the positive direction and the result will be very effective but it can also be the same effect on the negative side if it does not work. Exiting a partnership that is poor is very difficult".* The span in which partnership can be found is bigger than with a traditional contract. There is considered to be an apparent risk with partnership and that the self-interest never lies. *"If the supplier has an opportunity to release itself from the commitments they will take that chance if it means that they earn money or lower their cost".* It requires a great deal of competence and resources to accomplish a partnership jointly. *"One is naive to think that for example SAAB would not use the fact that they are in a monopolistic situation. It is very difficult for us to influence them.*

The only thing available for us is to scrutinize their calculations and point at incongruities in the price to achieve as good solution as possible. But if SAAB says "take it or leave it" there is not much for us to do if we need to use JAS in an international operation and we are required to procure something".

4.2.4 Swedish Defence Industry

"When conducting a procurement at the Swedish defence industry, it often results in a unique Swedish concept which means that FMV will be the only buyer and there is no one to share the development costs with". That is said to cause the product to be more expensive than it would have been to purchase it on the market. This has according to the group led to a relative limited Swedish market, at least historically. To jointly develop the market is considered by the group as one alternative that could help to build a better relationship with the Swedish defence industry. *"The customer benefits in terms of lower development cost and the supplier can increase its revenue"*. When export is not possible it is said that the supplier tries to get as much out of FMV and FM as possible, however, when that is not possible they will be forced into bankruptcy.

A complicating factor that is brought up during the discussion is that former employees at FMV or FM is employed at the defence industry and that could mean that they have access into FMV. *"It could sometimes be that people listen more to the representative form the industry than on us"*. The group think it is understandable that the defence industry employs former FMV and FM employees but emphasises that it is necessary for people involved in procurements to know where they belong and where they should have their loyalty.

Swedish defence industry is considered as important for maintaining and developing the delivered systems that is currently used by the armed forces. *"JAS would not be airborne if SAAB went into bankruptcy. That is not unique for JAS but that is the case for all major systems"*. Having domestic competence is considered to be necessary for international collaboration. *"If you do not have the toys you are not allowed to play and our toys is our industrial capacity. Without it we are just a buyer"*. When discussing international operations it is said to have been a liability to have a unique Swedish concept historically. This has nowadays changed and most products are today compatible with most NATO countries and that opens up for more export. It could therefore be of interest, from a marketing perspective, for the Swedish defence industry to have their materiel in international operations.

4.2.5 The Governing Process

"LOU decides what type of procurement method you chose and that is the basis for what you can and cannot do in the procurement process". When making an exception as when directly approaching a supplier it is necessary to find reasons for that in LOU. *"The more complex the procurement is the more likely it is that we have an exception from the Government according to LOU 6 §17, and this gives us more freedom"*. LOU is considered as troublesome since all suppliers must receive equal treatment and no one should have the advantage over the other. *"When discussing with different suppliers it is important to be strict and tell everyone the same thing so that it will not cause trouble later on in a court trial.* Before and during developing specification of requirements there cannot be any form of discussion with the suppliers. It is possible to conduct a RFI to collect facts but it is said not to be considered as a part of the procurement process.

"We feel that we are very tied up by the procurement regulations and that they are not adjusted for procurement of complex systems. Instead they are more suitable for procuring bolts and screws where there is a big market and specifications are fairly simple. Defence procurement is included in the sixth chapter of LOU, which is said not to be a part of the EC directive. It is according to the group a

national creation that is developed in accordance to the other chapters of LOU. *"Other countries have given themselves far more freedom for defence procurements"*. The group discusses that a new public procurement directives has been approved by the EC commission and includes a new procurement method that is called "competitive dialogue", which opens up for a dialogue with the supplier before making the specification of requirements. It is suggested that the competitive dialogue might facilitate the preparatory work. The method has, according to the group, already been implemented in many European countries and it should have been implemented in Sweden as well.

"We try to be as flexible as LOU allows us in order to conduct cost-efficient procurements". The group describes two possibilities, either one could play safe and never test the limits of LOU or you could test the limits. *"We at FMV tend to play safe rather than taking a risk. One can say that we are not flexible as such but we can influence to receive more flexibility. We must apply for an exception so the level of freedom is at our owners, our ultimate employer, politics"*.

"The fact is that we live in a political world even though we are a public agency, the borders are floating. We live in a world where we need materiel to satisfy the need for the defence and that is often concerned with the utilization of already made investments even though it is not the best system to solve the problem". Due to the fact that the policy documents come form a political management it is said that it is not always straightforward due to natural reasons, there has to be some freedom of interpretation. *"The direction of the political management is constantly moving and in some cases it is very important to supply a task force with really good materiel and in the next case it is not the materiel that is in focus but instead it is the preservation of the industrial capacity"*.

The group says that it is possible to interpret different things in the policy documents. Knowledge on what is actually said in those documents is considered by the group to be fairly limited. *"There are also certain documents that exist that is not guiding documents that has been produced by certain departments at FMV as if they actually were a policy document. There exist a number of different documents in the organisation with unclear importance and causes problem, these documents are used by certain people to support their own interest and interprets them to suit their own interest. In certain cases it could be so that certain people has combined several documents and created an own to support a certain thing.*

The Parliament and the Government create rules of the game while it is FMV that controls the procurement process. It is a complex game where there are some overarching parameters but the persons in the project group decides a lot according to their experience, competence and their network of contacts could also play and important role. *"It has happened when you are in the final stages of the negotiations with a supplier and tries to create a good deal. Then the industry has bypassed the project group and entered higher levels, in some cases even at the MoD, to put pressure on certain persons that could influence the project group to let go of certain aspects"*.

Today's materiel strategy is said to be very short-term and that there are constantly new signals from FM that influence the procurement. *"There have been cases where we have been quite far into a procurement process when we have been forced to discontinue due to that FM has new priorities of what should be procured"*. There is also an expressed will from the group that FM would have a more stable interaction process on how their need have emerged. FM should, according to the group, also move up on a higher and broader level when they place an order with FMV. *"At the moment there are coincidences that frees funds and it is the rate of the day that decides what type of system to invest in"*.

There is a rather incomplete evaluation of FMV from FM concerning performance and efficiency of procurements. *"The only thing that FM as our customer evaluates is the milestones, which*

is if we delivers in time of not. It is extremely complex to evaluate the quality on thousands of parameters and if it is done in the verification stage it is not sure that it will fulfil the requirements after a year of actual use". This is said to sometimes make FMV accept doubtful products because that the failure to deliver would result in a missed milestone and FM would be irritated. If the product is accepted, FM will be satisfied and it is considered as positive that the appropriation has been consumed.

When doing the preparatory work that is the basis for the project budget you look at the indication on what it will cost and then you add pretty much because you know that it will be reduced in several stages. As a project leader there is no form of bonus if you go below the budget since the goal is to land at zero. The problem is said to be that the incentive to do that really good deal is not quite as high as in the private market. The State cannot make profit. FM has a certain need of a certain number of systems neither more or less.

4.3 The Technical Group

4.3.1 Cost-Efficiency

Cost-efficiency is, according to the group, very dependent on the type of system that is purchased. *"It could in some cases be cost-efficient to develop a new product and in other cases it could be cost-efficient to purchase an existing product. Something could be cost-efficient for the moment but it is seldom possible for FMV to consider a wider perspective"*. An example was given by one of the group members where it was said that, FMV can be cost-efficient when looking at its own budget but many other budgets are also affected by decision made by FMV and where FMV has limited insight. This makes it, according to the group, difficult to develop a coherent evaluation of the overall cost-efficiency. The group highlights that the short planning horizon hampers FMV's ability to do cost-efficient procurements and it is said that FM often pulverise their orders to FMV, which can be seen as aggravating circumstances for being cost-efficient.

There are according to the group many aspects that need to be considered when talking about cost-efficiency and it is not just the price that is interesting. It is important that the procurement is conducted according to laws and regulations and to look at the entire lifecycle. It is emphasises that the price for a product might be higher while the total cost is lower. *"Knowing the effect of the purchased system over the entire lifecycle is what cost efficiency should be all about"*. Another example is given where it is said that if FM has a demand for a function over an uncertain period of time and FMV should fulfil that demand with a product, it could be preferable not to be committed to a product for a long period of time. On the one hand, purchasing a product with a short lifecycle to a low cost could perhaps be the best solution. On the other hand, if FM's need for the function stretches over a longer time period, it could mean that FMV is required to purchase the same product over and over again, which results in high operations cost such as repeated education on new products.

During the discussion on cost efficiency, a question was raised in the group whether cost efficiency is considered from a procurement perspective and not just from a product perspective. The predominant focus on the product is seen as a problem at FMV and it is said that the demand for more competitive procurement requires more work and knowledge in order to produce good specifications that are needed when procuring through competitive bidding. *"The cutback on FMV's personnel reduces the ability to conduct the important preparatory work"*. Competitive bidding is considered to give a lower price for the product, but it requires more personnel. The price of the product plus the cost of the personnel is consid-

ered in the group to be lower in competitive bidding compared to when directly approached a supplier. The group says that FMV must be given the possibilities to do cost-efficient procurements and that it is important to look at all aspects before conducting cutbacks in personnel.

4.3.2 Competition

The group sees no problem in procuring complex products and systems through competitive bidding. However, it is said to require a greater effort by FMV compared with directly approaching a supplier. Competitive bidding is considered as very good for mature markets where the group think that it gives a better price and allows for sharing of future developments between other users.

The focus group stresses that you must be able to define your specification of requirements in order to use competitive bidding. It is also said to be increasingly important to qualify suppliers in order to award the contract to a supplier that is able to manage the contract. One drawback mentioned with the use of competitive bidding on the defence market is the great number of market imperfections that tends to distort the competition. *"Sweden has a tendency to participate in international operations more often nowadays and that means that the need for products often coincide with other nations need for the same product. Since larger countries are larger customers, they are likely to be prioritized for delivery while Sweden falls down on the list"*. Another drawback with competitive bidding is, according to the group, that FMV does not have any insight into the company that delivers the product, which is possible when a supplier is directly approached. This is said to allow the supplier to lower the price on the first batch to recoup the lost margin once the customer is stuck with the system. The group thinks that competitive bidding is good, however one should be aware of the fact that there are not an unlimited amount of interested and qualified companies that could ensure that competition is sustained.

4.3.3 Partnership

The group says that in long-term commitments it is necessary to focus on common goals and problems where partnership is something FMV must aspire. Many of the larger systems that are procured have a lifetime of up to 40 years and in such cases it is considered as a requirement to have a different relationship with the supplier compared to a strict commercial relation. It is according to the group important to have an understanding of each other's role-play when creating a closer relationship, however it is also said that it could be difficult to keep the roles separate in longer relations where people get to know each other on a personal level. A problem found in today's relations is that it sometimes is difficult for FMV to know its position in the role-play with the industry when it is supposed to be a critical customer on one day and a partner in exporting the product another day.

A partnership is according to the group not connected to the choice of procurement method and could develop by directly approaching a supplier as well as after a competitive bidding process. It is considered as easier to create a good relationship on the lower levels when business aspects can be put aside. *"Problems often occur on the management levels where money is the key issue"*. In those situations it is said to be more difficult to create a partnership where one shares risks. Risk awareness is mentioned as very high at FMV and described as something that might reduce the ability to create closer relationships.

It is important that both parties can see the benefits with the relationship. The focus group can see the benefits of having a close relationship between FMV and the industry. As an example, *"we have in the past benefited from having a strong relationship between FMV and the industry through the development of competitive products to a fraction of the cost of procuring similar systems on an international market"*. The focus group distinguishes a need for FMV to be better coordinated towards its suppliers to improve its relationships with its suppliers. Many of the major suppliers is said to have a key account manager for FMV but there is no equivalent position at FMV. *"FMV is very unorganized towards its suppliers that are to be considered as a disadvantage"*.

4.3.4 Swedish Defence Industry

The Swedish defence has lived in symbiosis with Swedish defence industry since the end of World War II, which has created a dependency that is considered difficult to transform into a strict customer-supplier relationship. The group thinks that it will take a long time before a more strict relationship can be achieved. The fact that Sweden has developed very complex systems in a short time with high international standard is something the group sees as one of the great advantages with being a small country. The drawback is said to be that it creates a dependency to the industry. *"The competence that has been built up during many years is something that we benefit from today but it wont be possible in the future since there are limited interest in developing new competence for the future"*. The benefits from the existing competence come in terms of international cooperation, counter buys and through barter transactions. Concurrently with the downsizing of Swedish defence industry, the situation is said to be different in 10 to 15 years. The group sees it as important to keep the competence within Sweden in order to maintain the existing systems. However, the group emphasises a more commercial approach in the future and not chose a Swedish supplier in a routine-like way. *"Many of the critical systems are difficult to buy on the market and you often receive older versions of the product if you have nothing to trade in return. In order to keep the full military ability in Sweden, it is important that we have something to trade with, otherwise we are not able to access the critical systems"*. As long as Sweden should have the full military ability, it is according to the group important to have domestic industrial competence. The dilemma with cutting cost and keeping a full military ability is described exemplified, *"When downsizing we have always had the ability to either remove a layer of the cake or to cut away a slice of the cake. We have always removed a layer but when you have reached the last layer that is not possible any more and then you have to start and cut away pieces of the cake"*. The importance of domestic defence industry is also seen from another perspective, "*I think it is important to have access to the ability to upgrade and maintain the systems in order to rapidly modify them for operations with other nations. If this ability is owned by foreign companies or not plays a minor role"*.

A question raised during the focus group was if the close relationship that exists between FMV and Swedish defence industry perhaps blurs the picture of the actual market situation. It was questioned if the competitive situation that actually exists is not utilized due to the long-lived relationships with the Swedish defence industry. It was also highlighted that it has previously been easy to talk about Swedish defence industry since it has been Swedish industry in Sweden for the Swedish defence. However, it was said that a major part of the Swedish defence industry is today owned by foreign companies, whom might have a different view on the future and long-term goals, which was said to makes it more uncertain if the competence will stay in Sweden or not.

The group says that the Government intent is to make FMV move to a more general level in the design of systems, which means that a lot of the competence previously found at FM needs to be taken over by FMV. This results in that the competence that has previously ex-

isted at FMV needs to be transferred to the industry. The group thinks that this movement of competence will take time and that many suppliers are used to receive clear specifications from FMV and when they are faced with more functional demands they do not know what to do. The group think it will take time before the industry gets into a different state of mind. *"There is a great difference between taking the strategic decision and to implement it"*. As said by one of the group members, *"It is not possible to make such a quick turn, the industry needs time to adapt its operations and it is important for a successful implementation to find new ways of doing business"*.

4.3.5 The Governing Process

Sweden is according to the group in the front rank when it comes to interpreting the EC directives and at the same time has FMV tried to be best in class when interpreting the public procurement act into its procurement directives. Finally, the jurists at FMV try to be best in class when interpreting FMV's procurement directives. The fear of making a mistake is considered to result in an atmosphere that promotes being on the safe side. **"***It is like the metaphor of the rally driver that drives safe all the time because he is afraid of driving off the road"*. One of the reasons for this is said to be that it is nowadays more common that suppliers appeal against the outcome of the procurement process compared to when it is not. "*It does not cost them anything to do it and it is a way of sabotaging for the competitor who received the order"*. The group thinks that FMV might not always have strong incentives to use competitive bidding, it is rather the other way around. *"Many of the employees at FMV are engineers and they often need guidance through the jungle of laws and regulations that exists at FMV. However, instead of having a pilot that helps guiding, they receive a gatekeeper"*. The business support could, according to the group, be of a different character where problem solving is more in focus instead of just a yes or a no. It is said to be a great deal of frustration connected to this issue.

It is considered to be a strong guidance towards businesslike and strict relations from the Government in the policy documents. The group thinks it is not so strange since FMV handles a lot of government funds. There is according to the group two organisations that evaluates FMV. The first one is the owner (MoD) and the second is the customer (FM), where FMV is said to be more focused on its owner than on its customer. The MoD is considered to be more focused on FMV in terms of the quality and efficiency of the organisation. The communication concerning priorities of materiel, political directions and the need for balancing is made through FM where FMV becomes the last link in the chain. FMV is, according to the group, not in charge of its own situation, which hinders its ability to good results that would have been possible with clearer and more stable conditions. The owner-focus that exists at FMV contributes to reluctance for taking commercial risks. The laws and regulations are, according to the group, not fully focused on the new operational defence and there should be a greater risk taking on the commercial side. The group would also like to see a greater courage when it comes to taking a risk in order to pass the procurement of a highly demanded product. It was said that some suppliers claim their biggest advantage to be that LOU does not control them. The group questions the use of PPP. *"If the major advantage of using PPP is to get around LOU, then perhaps it should be investigated what a change in the application of LOU would result in"*.

The group thinks that there could be improvements on the customer side as well. FM tend to look at single systems and fail to see how things are connected. *"FM should improve its ability to give functional demands to FMV instead of suggesting products and describe their need in a better way"*.

4.4 The MoD Group

4.4.1 Cost-Efficiency

Cost-efficiency is according to the group something that is good enough over the entire lifecycle and that it is important to find the right balance between quality and cost. The Swedish defence has from a historical perspective had products of high performance, which is claimed to be affordable only when the products were not used. *"The new direction for the defence put demands on the products where they are actually used and it is then impossible to afford top of the line products"*. The group sees a need for careful consideration between quality and quantity where it is important to weigh a very attractive price tag against the need to repeat the procurement again and again. "*It is not possible to have top of the line products in all sections and still make cost-efficient procurements, one must balance between good enough materiel and cost-efficiency"*. Having top of the line products in every section of the armed forces is seen as redundant. It is also considered as important to clarify for whom it is cost-efficient. *"The defence industry could be cost-efficient but it does not mean that it is cost-efficient for the State, and it is perhaps not cost-efficient for the defence sector but it can be cost-efficient for the social structure as a whole. The word cost-efficiency can be used for what you want to accomplish"*. There are according to the group no calculations made today that shows if the procurements are cost-efficient and for whom, however it is claimed that the administration around the procurement of defence materiel is not cost-efficient.

When discussing the issue of full military ability, the group separates between operational ability and technical ability. It is according to the group possible to have an almost full operational capacity without any domestic technical ability. The operational ability is separated from the technical, industrial and material ability. It is claimed possible to have top-level technical ability in selected areas but it is not possible to have it in all areas. However, the group emphasises the importance of being a qualified customer in the remaining areas. It is also said that necessary competence could be collected from other nations by establishing close relationships with other buyers whose competence is good in the specific areas.

The Swedish model has traditionally been to guarantee usufruct on the materiel while the industry have had proprietorship and developed the product. "*The Americans have always had proprietorship on everything, but it is not affordable with a population of 9 million. This results in a situation where you are stuck to the developer of the product"*.

4.4.2 Competition

When discussing the market situation for the defence industry it is said that the figure presented in the stimuli material (Appendix C) is easier to apply on the civil industry and that the box labelled "mixed" is the closest to pure competition that is possible in the defence sector. "*It is possible to reach a complete competitive situation for consumable supplies like toilet paper and small arms, but it is not realistic for more complex defence materiel"*. It is said that although there is only a few suppliers in the world, almost like an oligopoly, there are a sufficient number of suppliers to claim that it is not a monopolistic market.

The group thinks that the use of competitive bidding is less effective if the needed product does not exist on the market and it is necessary to place a development order. The major difficulty in such cases is said to be to create specification of requirements that can withstand an appeal against the outcome of the procurement process. When developing a new product it is often necessary to change the specification of requirements as the process

goes about, which is not possible when using competitive bidding. The group says that FMV and the defence industry often claims that competitive bidding leads to outmoded technology due to the length of time between the creation of the specification and the actual delivery. They are said to continue claiming that it is easier to integrate the latest technology if it is a new product development. "*This could be a drawback of competitive bidding but it depends on the type of material system and what is considered as good enough"*. A positive aspect with the use of competitive bidding for procuring foreign produced materiel is said to be that the need to care about the supplier's financial survival is more an issue for the nation in which the supplier is situated.

The development costs are said to be paid irrespective of the procurement method that is used. "*Either one finances the next generation by purchasing the previous generation or you take the development cost yourself. There is no one who practice charity and it is impossible to say what is the cheapest and best alternative in the long run"*. The group also stresses that it could in many cases be good to purchase something that is proven to function when going on an international operation. It is yet again said to be dependent on the type of system and where the system will be used, in the Baltic Sea or in Afghanistan.

4.4.3 Partnership

It is according to the group difficult to use the term partnership with suppliers. *"It has historically been a close relation between FMV and the supplier where the specification of requirements was developed in cooperation"*. There is said to be a constant movement of the people working in the sector between FM, FMV and the industry, which creates special bonds that is difficult to break. The traditional way of supplying FM has been to conduct development projects in close collaboration with the industry and then after a couple of years place a purchasing order. "*In this way we have been able to develop a very successful defence industry"*. The group sees advantages of having engineers on both the private and the public side, especially when there was an invasion-based defence with long-term development projects. However, that way of working is considered to create great costs that are difficult to justify in today's rapidly changing environment. "*We have built a very complex situation that is difficult to rationalize"*.

If FM has a certain need that is not possible to fulfil with products that exists on the market, it is necessary to develop a new system and that is done by directly approaching a supplier. When conducting product development it is seen as necessary to have a more in-depth dialogue with the supplier to establish that the product fulfils the need. This type of close collaboration is considered necessary after using competitive bidding as well. It was said that the future should include more international collaborations for materiel supply and that it is necessary to involve the industry in more stages of the product lifecycle. *"The direction today is that the industry should take a greater responsibility during the entire lifecycle by adding responsibility for maintenance and operation of the system"*.

The majority of the money spent on defence materiel is through contracts where FMV has directly approached a supplier without using competitive bidding. It is said to be approximately 70-90% of the collective value of all defence procurements. *"Once you have done the choice of a complex materiel system you are somewhat stuck in a monopolistic situation during the entire system lifetime, even though there are other systems available. In every case of development, upgrade or complementary order it is necessary to use the supplier who has developed the system since they are the only one who can deliver"*. This is said to create problems since it is important to place additional development orders on that supplier in order to keep up a certain level of competence to maintain the already procured systems. Without these additional development orders the

risk is, as the group sees it, that the supplier goes bankrupt and then there is no one to develop and maintain the system during its remaining lifetime. *"It is like you are stuck in a circle, if it is good or bad is a question of what you believe in"*.

4.4.4 Swedish Defence Industry

Foreign companies is said to own a majority of the Swedish defence industry, which considered by the group to make it difficult to decide whether they are national industries or not. However, the group define the term Swedish defence industry as: *"In Sweden active defence industry, companies that produce and supply products and services to customers within the defence sector"*. The group stress that irrespective of the fact that the industry is owned by foreign companies or not, there is a long-term relationship between the private and the public part of the defence sector that has been built up over the years.

Defence industry that is active within Sweden is one of the few remaining areas where the government has the option to actively support industry without violating the EC regulations. The government is the only legitimate customer and user of these products and this means that the government controls this market with several different roles such as, buyer, user, legislator and authorizer of export. *"It is the last opportunity available for the government to actively influence the industry and invest in technology development. It requires a great deal before a government is willing to release that opportunity"*. The group considers the defence sector to be greatly influenced by some sort of barter economy where for example one product is bought to get a technology in return. There are said to be a lot of aspects that distorts the market competition. "*It could be very dramatic choices in certain procurements if the choice is to either buy from this Swedish company or it will disappear. This has created a mental monopoly where one chose to sustain this monopoly by habit"*.

It is according to the group possible to supply the Swedish defence without Swedish products, by utilizing the global market. However, it is said to still to be considered as a barter economy where the best products is only accessible if you have something to trade with or contribute with. *"Without a Swedish defence industry it is impossible to be a part of international materiel collaboration Sweden needs to contribute with something. You will never get access to the latest products if you only bring money and it is a great chance it might get expensive"*. Without the competence it is more difficult to know what is actually bought. It is said that Sweden would not have been such an attractive partners if it have not had a technologically advanced industry that could contribute to the different project.

"Deciding upon the importance of the Swedish defence industry involves political values that we are not able to answer but we have benefited from having a strong defence industry in Sweden. We have, as an example, been able to develop close relations with other nations with the help of the defence industry". It is said that it is probable that the Swedish defence industry has been cost-efficient in an historical perspective but there would be more export if that was the case today. *"Many countries consider the defence industry as a resource to the security policy and wants to guarantee its survival. This means that the choice of having a domestic defence industry results in a responsibility to sustain it"*.

The group think that from a theoretical perspective it is possible to supply international operations without a Swedish defence industry, however the fact that a large part of the materiel used by the armed forces are produced in Sweden means that there is a dependence. The group sees a risk of losing time without a domestic industry when equipment is needed in international operations. This is said to be due to fact that when the demand goes up the suppliers tend to prioritise the major customers such as the USA. It is also claimed to be easier to modify and maintain the materiel with a domestic industry.

"It would of course have been better if all the nations included in an international operation had the same materiel but all countries have their own model and their own modifications, which means that everyone has to have their own logistics and where Sweden is just one out of many with that problem". Sweden has previously been equipped with materiel that is developed for the Swedish environment but the need has changed and the group does not consider the Swedish supplier to have the best knowledge of other environments. *"International conflicts tend to break out in warmer and sandier climates"*. However, the group emphasises that this does not mean that the defence should not be used nationally, however it is said to put higher demand on flexibility.

4.4.5 The Governing Process

"Everyone seems to be clear about the division of roles in the public network but the view on how it actually works differs depending on where you sit". The best scenario for procurement from a theoretical perspective is said to be that FM communicates their need for certain ability and not their need for a specific product. *"FMV's role is then to provide FM with that ability by for example use tank A that we already have and modify it a little bit, or if we buy tank B that is available on the market or if we have to develop tank C"*. The situation today is said to be somewhat different, where FM often communicates their need for a product rather than communicating a need for specific ability. This way of working creates according to the group difficulties in using the market and it often lead to a new product development. *"We try to refine this role-play so that FM consider a more operative ability and put their need on a higher and broader level"*.

The most long-term document that the Riksdag adopt is "försvarsbeslutet" that stretches over three years, which is considered as a very short time period when it comes to defence materiel. *"Riksdagen might not always have that long-term view that allows evaluations of systems that has been in operations for 10 years and where the budget cycle is just one year"*. It is FM that places the order at FMV and is said to be responsible for evaluating the procurements. The evaluation is said to be from an operational perspective where FMV is evaluated in terms of milestones of activities. The group says that such an interface does not exist between the MoD and FMV. *"There is a deficient economical evaluation on FMV from FM. FM does not have any business ratios that shows how cost-efficient FMV is. Systematic evaluation of decisions is something that we could be better at"*.

The MoD's task is to supply the government with information for decision-making and to assists in controlling the public agencies. The materiel supply is said to be controlled both directly and indirectly. The Riksdag gives the government authorization to do procurements and the government gives an appropriation to FM to conduct the procurements via FMV. This is described as the indirect control of FMV through FM. This model is said to be a way to describe the movement of government funds rather than describing how procurements are actually made. The direct control of FMV is more concerned with how to conduct procurements, for example the demand for more international collaboration to share the fixed costs. "*If FMV wants to make an exception from LOU according to LOU 6 § 17, they need to send a petition to us an ask for an authorization that we convey to the government"*. The deviation must be applicable to article 296 in the EC directives. Once the deviation is approved, FMV is considered to be more flexible in their choice of procurement method. *"The content of article 296 has been discussed in the EC and the major problem is that it is not complete. For example services are not a part of the list even though it have become a major part of the procurements in the defence sector"*.

The government direction is said to be that it should be less product developments and smaller batches and there is wish that the government agencies should move upwards to a

higher system level, which implies that the suppliers are to be involved in more parts of the lifecycle. This new direction is labelled "Offentlig Privat Samverkan" (OPS) in Swedish and can be translated into PPP. *"The work around PPP has been going on for several years in Sweden but there are not yet any examples of procurements that can be put under that label"*. The latest change in direction is according to the group is that the existing market should be used in a better way and that product developments should be concentrated to those areas where it is motivated from a security perspective to conduct development. *"It is unlikely that we would place a development order on the international market, instead it would go through directly approaching a supplier. If something is procured with competitive bidding, it means that we procure already existing materiel"*.

"We wish that FMV would remove their routine-like use of the direct approach and not exploit the option to make deviation from LOU". There is said to be an ambition on the European level to use more competitive bidding in the defence sector and move it towards the characteristics of a normal market. The close relationship that has existed between the industry, FMV and FM is considered to have created a mental blockade where people think that a technical capability is required in order to keep the full military ability. This is according to the group a major problem that they tries to find a solution to but it is said to be a difficult task with the small ministry and large government agencies. *"This means that we are very dependent on the data that we receive the agencies and it is difficult for us to create arguments and information to create a change and it takes a long time to implement"*. *"The best and most efficient instrument for implementing change that we have is economic measures. It results in changes on both the size of the workforce and force the agencies to improve their internal operation"*.

"We have an open dialogue with FMV but that does not mean that we have an informal control". The group emphasises the difference between controlling and having a dialogue and it is also claimed that any informal documents does not exist. The control from the MoD to the government agencies is considered to be very formal.

FMV is considered as very flexible in their choice of procurement method but it is also said that LOU is not perfect. *"There is a need for developing the procurement directives on both the European and the national level. FMV claims the communication as a big problem with the use of competitive bidding and that is something that the EC commission reference to when they want to develop the procurement directives. Such a change would for example facilitate the ability to conduct faster procurements needed for international operations"*.

4.5 FM's Strategy for PPP

It was described during the pre-study as well as during the focus groups that PPP is the future for Swedish defence procurement and it is therefore important to describe this subject. The following section is taken from on a missive from FM on the decision made for future use of PPP in defence procurement (HKV 25 100:69043). The missive consists of three documents that describe general strategy for PPP, guidelines for the implementation and legislative issues connected to PPP. The term Public-Private Partnership (PPP) concerns, according to FM, different forms of cooperation and partnerships between public and the private actors involving services, supplies and constructions. PPP is considered as a collective term that includes outsourcing of services, alternative financial solutions and partnership solutions for services, supplies and constructions. The purpose is to increase cost-efficiency and improve the effectiveness of the core business. One thing that is common for all PPP-solutions is that FM first identifies a need and demand for function and quality. It is thereafter the private actors that, in collaboration with the client, presents and develops a solution that fulfils the need and satisfies the demands.

The Swedish Parliament is said to emphasise the importance of testing different models for cooperation with suppliers in order to allow the private sector to take a greater responsibility for system integration, operation and maintenance. This requires FM to evaluate how their relations with Swedish defence industry, as well as with research and development, can improve the materiel supply process and make it more cost-efficient. Using PPP within FM is considered to facilitate that a greater effectiveness within the core business can be achieved. Within the area of PPP, the core business for FM is described to be battles, or situations that could lead to battle within a short time period. FM's core competence is described as having the ability that is needed for conducting a battle.

4.5.1 Guidelines for PPP

Within the area of PPP there are solutions similar to partnerships and FM uses two of these variants. The first is strategic partnerships and have been used by FM under a very long time with different domestic suppliers. FM has through FMV worked close together with chosen suppliers and the intention has been to assure that the possibility to make upgrades of products exists in Sweden during the entire lifecycle. The parties within a strategic partnership have jointly developed a specific product or system that has been delivered with the intention to get as much defence materiel as possible within the budget.

The second variant is project alliances, which is described as suitable for high-risk projects that is characterised by newly developed technology and a complex interface. These projects have a high demand for interaction between the supplier and the customer during the project lifecycle. The contract form gives strong incentives for actors that can complete a product within the frame of controlled costs. The profit can be increased for all parties if the costs can be controlled and not increased over time. The parties are conjointly responsible for conducting the work and sharing the risk that is involved in the project. This form of working is said to often have resulted in a very innovative environment where the decisions were fast and the focus lied on the result rather than the process. If one of the parties made a poor work it would affect all other parties within the cooperation. It is therefore described to be in the interest of all parties to jointly identify, analyse and eliminate the risks. In respect to the risk involved in such a project it is considered important to make a thorough analysis to decide if the project and the involved actors are suitable for a project alliance.

It is described that there are different reasons when there is not a functioning market or when a specific supplier is chosen for strategic or political reasons. It is acknowledged that sometimes there is just one supplier that is possible for the project. In such situations it is important to make the best out of the situation and design contracts that creates incentives for the supplier to supply FM with the needed products on good terms.

Experienced gained from previous international contacts indicates that it is important to have a minimum level of domestic competence within FM in order to remain a good customer. Many is said to underestimate the competence that outsourcing organisations must have in order to be a good customer. It is described to be important that there is a transfer of knowledge between the supplier and FM. Having access to unprocessed and processed data, together with experience, makes it possible to sustain the customer/evaluating competence.

It is also described as important to have knowledge on how laws and regulations controls the procurement since it facilitates the possibility to find business models that allows for PPP working methods. There is no general model at FM on how a contract should be de-

signed; instead it should be customised in accordance to the evaluation of the specific situation. The use of PPP should not mean that the competitive situations disappear. It is therefore important that FM nurture the market in order to sustain a competitive situation and avoid monopolistic situations. The risk with long-term contracts is that they tend to restrain the market and creates monopoly. To find the balance between competition, innovation and long-term security is said to require a great deal from the relation between FM and the industry.

The last step before a decision is taken is to complete a SWOT analysis where all strengths, weaknesses, opportunities and threats are elucidated. It is important to include all possible alternatives; from keeping the business under personal management to implementing different PPP's. Everything is composed in a SWOT-matrix, which is then basis for the decision to proceed with the PPP or not. The SWOT analysis considers both internal aspects; strength and weaknesses, and external aspects; opportunities and threats. The SWOT analysis is also important for follow-up, governing and evaluation of the PPP. The initial SWOT analysis should afterwards be verified, so that the information is still relevant.

4.5.2 Legislative issues on PPP

The basic principle of LOU is to allow free movement of goods and services. LOU is described as the road towards different types of cooperation. It concerns how FM or FMV should choose the private actor for the PPP project. There are no legal obstacles that prevent the PPP method of working. It is emphasised that PPP is not to be considered as a shortcut past the process of public procurement.

There is currently a major restructuring of LOU but the purpose is still the same, to promote fair and equal competition. FM describes competitive dialog as a new procurement method that will be introduced and that it looks very promising from a PPP perspective. The intention with competitive dialogue is to allow PPE to have more dialogue with the supplier/suppliers than what is possible within the current law.

Since FM is a public entity its procurement is concerned with more than just making a good deal. Reducing prices too much can give unwanted results when products are delivered. Suppliers could have been pressured to a point that jeopardise their survival or ability to fulfil the delivery. FM emphasises the importance of understanding that the supplier is required to make a reasonable profit in order to continue its business. This should be placed in relation to the fact that the procurements should give as much as possible for the tax revenue that is spent. When evaluating FM's need for competences and abilities in a short- and long-term perspective, it is important to acknowledge that there is more to the cooperation between the public and the private sector than just monetary issues.

5 Analysis

5.1 Cost-Efficiency

The concept of cost-efficiency is a complex issue and the empirical study suggests that the meaning of the concept could differ depending on the context. The three focus groups have approached the concept from different perspectives and it is difficult to discern any clear definition of the concept. The complexity involved in defining what is to be considered as cost-efficiency in Swedish defence procurement was highlighted by the MoD group; "*The word cost-efficiency can be used for what you want to accomplish*". With no clear definition of what is to be considered as cost-efficient, it is difficult to know how it can be achieved.

The technical group also points to the complexity of cost-efficiency when saying that it is very much dependent on the procured system or product. If cost-efficiency is dependent on the context and the situation, it is perhaps one reason for not having a clear definition. However, by saying that cost-efficiency is dependent on the situation, it becomes even more difficult to know what is to be considered as cost-efficient and what is not. The MoD group viewed cost-efficiency as something that is 'good enough' over the entire system lifecycle and emphasised the importance of finding a balance between quality and cost. Finding a 'good enough' product that has the right balance between quality and cost could however be difficult. First of all, what should be considered as 'good enough'? It is perhaps useful to return to the term value for money that was described by Erridge and Nondi (1994). The first concept of value for money is economy. This concept increases the value for money by reducing the price that is paid for the product. This is of course important for achieving better cost-efficiency. More value for money could also be achieved through the concept of efficiency, where higher quality or quantity is achieved for the same price. Being able to get more quality for the same price is something that could be useful for many situations if the higher quality would mean that the LCC would be reduced due to lower maintenance costs. The third concept that could enhance the value for money is effectiveness. The concept of effectiveness contributes to the value by improving the performance and quality of the desired effects. This could for example be a tank that is faster or a cannon that is more accurate. With value for money in consideration, it is perhaps easier to understand what is to be considered as cost-efficiency. However, there is more to cost-efficiency than the three concepts of value for money, as an example, The commercial group described that the need to utilize already made investments often results in poor cost-efficiency compared to if the market was used. This is of course something that needs to be considered in all procurements and it is very important in defence procurements since there is a great need for interoperability between old and new products.

In the discussion on cost-efficiency, the commercial group said that it is to economize with tax revenue and make what is best for FM. Comparing this to the other two groups, there are clearly some differences. However, if the three groups view on cost-efficiency is combined, a definition could be as follows; cost-efficient procurements should be good enough in order to satisfy FM's demand throughout the systems entire lifecycle. The term 'good enough' comes from the third group and defines the standard that is required for the product. It might not always be necessary to buy the best ones available. To satisfy FM's demands is from the third group and it focuses on for whom it is supposed to be cost-efficient. This is a very important aspect since it sort out certain irrelevant considerations.

Considering the entire lifecycle comes from the second group and it gives a perspective to cost-efficiency that is important when comparing different alternatives.

Another problem that was highlighted in all three groups is the difficulty with evaluating cost-efficiency since the effect of the procured system stretches over several years, *"knowing the effect of the purchased system over the entire lifecycle is what cost-efficiency should be all about"* (the technical group) This is similar to the definition of LCC that was given in section 2.2.2, where the focus is on the importance of knowing the effect of a purchase system over the lifecycle and how it is sustained. LCC could be used as a tool for evaluating and comparing different tenders to determine which one would render in most value for money. The procurement and development of defence procurement is often a complex and long-term process where LCC is, according to Kaplan and Atkinson, even more important. The difficulty in evaluating cost-efficiency was also discussed in the MoD group where it was said that there is no evaluation today that describes how cost-efficient procurements are and for whom. On the discussion, for who the procurements should be cost-efficient, the commercial group thinks that FMV should try to focus on what is cost-efficient for FM and not take considerations on economic policy. Without sufficient evaluation of procurements, it is difficult to determine cost-efficiency. In FM's PPP strategy (HKV 25 100:69043), the evaluation is considered to be very important, before as well as after the project. Both the commercial group and the MoD group acknowledge the evaluation of completed procurements to be inadequate. It is also written in FM's PPP strategy (HKV 25 100:69043) that a SWOT analysis needs to be completed before deciding whether to proceed or not with the commitment. Included in the SWOT matrix are all possible alternatives and issues related to them, both internal and external. The SWOT analysis should also be evaluated and verified afterwards, where it is important to answer the questions; was it properly constructed the first time and have the internal or external aspects changed that makes it incorrect. Experiences and knowledge obtained in past procurements should govern and base future procurements. Evaluation is considered by Woodward (1997) as important for understanding the current procurements as well as improving future decision-making. Thus, it is important that FMV evaluates and gets evaluated in order to develop the organisation and to impose incentives for improvement. Using the SWOT analysis for determination and evaluation makes it simple and straightforward for those involved.

5.1.1 Improving cost-efficiency

There are different views in the three groups on how cost-efficiency in defence procurements can be enhanced. the commercial group consider LOU to be the major obstacle for achieving cost-efficient procurements. Competitive procurement is considered by the technical group to give better cost-efficiency but that it requires a great deal of administrative resources for achieving it. Their argument is that the total cost for competitive procurement is lower compared to a direct procurement since competitive procurement often gives a lower price, which compensates for the higher administrative costs. These is contradicted by the MoD group when claiming that the administration around defence procurement is inefficient and that reducing the appropriation for FMV would impose the necessary reduction of workforce and compel an organizational change, which would lead to better cost-efficiency.

A major piece of the procurement in monetary terms is related to transaction costs in the pre-production stage, in particular for complex systems, and as Coase (1937) points out; the most obvious cost of organizing production is that of discovering what the relevant prices are. It may well be true what the technical group claims that competitive bidding

gives better cost efficiency despite the larger administration cost but one cannot be certain without sufficient evaluation. Improving the detail of the specifications require more resources in the pre-production stage. The result could end in a better deal for FMV but there is also a risk that too rigid specifications could hamper the supplier and reduce their creativity. Good specifications will, however, make the selection process easier. The LCC iceberg illustrates the proportion of the purchase price, above the surface, in relation to all other costs, under the surface, associated with the products entire life. Good preparations before the procurement may visualize more of the costs under the surface. If not proper and thorough preparations are made, there is a risk that the chosen offer could appear to be better than it actually is. If there is inadequate evaluation of what is cost-efficient and not, it is difficult to use the term for describing the objective for how defence procurements are to be conducted. It is of course very difficult to estimate the LCC for a system and to conclude which alternative that is the most cost-efficient solution for FM.

It was described in the introduction that the structure of the Swedish defence has changed from being a defence against invasion to become a flexible network based defence, which has created a higher demand on flexibility. For the defence equipment supply in Sweden this has meant smaller production batches and shorter lifecycles, which have resulted in repeated purchases that have had a negative influence on cost-efficiency. The new government bill for the Swedish defence (Swedish Government Bill 2004/05:5) implies that it is preferable with shorter contracts and fewer long-term product developments. With shorter contracts it is possible that the transaction cost will be increased. Coase (1937) explains this with that long-term contracts are in favour over short-term if based on transaction costs solely.

The second focus group discussed if it is possible to combine full military ability with conducting cost-efficient procurements. According to the technical group, the full military ability requires full industrial competence in Sweden. In contradiction to the technical group, the MoD group says that it is possible to have almost full military ability without the need for domestic industrial competence. the MoD group emphasise that the military ability is separated from the technical and industrial ability. On the other hand, the MoD group said that it is not possible to be without technical ability and at the same time conduct cost-efficient procurements since the defence equipment market is characterised by barter transactions which makes it difficult to access the best products without offering something in return, in addition to money. There is a clear contradiction between the MoD and FMV in the discussion around full military ability and whether it requires domestic competence or not. Having full industrial competence in every area is not cost-efficient for a small country like Sweden but in order to have access to all areas it is important that Sweden focuses on some of the areas where it is possible to be a leading developer and thus an attractive partner in international collaborations. the MoD group says that it is impossible to conclude whether it is more cost-efficient to have domestic competence, and thereby continuously invest in it to keep it on the front edge, or to say it is more cost-efficient to procure everything from international suppliers. There are many factors that is influencing this discussion. It could for example be discussed if a domestic supplier would bring more value to the product through faster upgrades and more collaboration or if such aspects are not to be considered in cost-efficiency.

5.2 Competition

The three groups are alike on the objective that the market should be utilized as much as possible. The commercial group is however not sure if utilizing the market means more use

of competitive procurement. In addition, all groups share the view that competitive procurement results in a lower price for the purchased product. Hjelmborg et al. (2006), explain that competition is a good incentive for suppliers to reduce the price. The market for defence materiel is however difficult to compare to other markets because of the limited number of buyers, political issues and so on. This problem is emphasised by both the commercial group and the MoD group, saying that the market for defence materiel is limited and that the numbers of suppliers in each segment are few, almost like an oligopoly market. In many markets, it is difficult to find the optimal level of suppliers in order to maximize the benefits gained from competition. As described by McAffe & McMillan, (1988, in Zitron, 2006) there could be too few as well as too many suppliers. Although the limited number of suppliers, the MoD group stresses that there are enough suppliers to allow the use of competitive procurement. Pure competition is considered by the commercial group to be impossible to achieve for the defence equipment market. *"It could appear to be free competition but the price is not completely under competition if it does not concern consumable supplies"* (the commercial group). Considering these issues, it is important for FMV to make the market as attractive as possible. Caldwell et al. (2005) suggest that the PPE tries to make the market attractive through offering a more stable market where there are incentives for improvement. One important aspect to consider in this discussion is given in FM's strategy for PPP (HKV 25 100:69043) where it is emphasised that the supplier must be allowed to make a reasonable profit. This is something that is very important to consider in the discussion on cost-efficiency. If FMV always strives for reducing the price for the product and having short-term contracts, it becomes difficult for the suppliers to build an organisation that could invest for the future. This way of working could give FMV value for money in terms of economy and efficiency but not effectiveness. If the supplier is not able to invest in product development and competence development, there will not be any faster tanks or more accurate cannons. Thus, it is important to acknowledge that the supplier must be able to contribute to cost-efficiency on a long-term basis.

Competitive procurement is considered by the technical group to be suitable for mature markets where it could result in a lower price and possibility to share fixed costs with other customers. In contrast, Bagari et al. (2003) found in their research that competitive bidding perform poorly with complex projects. Developing a product is considered to be expensive but the MoD group claims that buying from the market does not mean that the cost for development is excluded. There is a divergence whether or not it is possible to use competitive procurement for development of new products. the MoD group claim that it is not possible while the commercial group and the technical group think that it is possible but it raises the standards on the specification. The reason for this divergence could be that the MoD group consider them to be in a weak knowledge position compared to FMV in subjects concerning procurement practices and that much of their knowledge builds on the information received from FMV. This shows defectiveness in the communication between the two parties in this specific issue. Britz (2006) refers to a report made by Ernst & Young 1998 about FMV's weaknesses that could be the cause of the distortion. In the report, FMV is said to be very bureaucratic and that they have too many levels of decision-making. This structure could lead to information distortion and slow decisions. As an example, the MoD group said that FMV and the industry often criticise that competitive procurement leads to outmoded technology because the length of time for conducting a procurement. This gets certain support from the commercial group as well. It is considered to be an advantage purchasing existing materiel from the market, that it is proven to work, when sending out equipment for international operations.

5.2.1 Consequences of Competition

The objective discussed earlier that the market should be used as much as possible is sometimes difficult to achieve. Just because a system is procured in competition does not mean that the following procurements connected to that system could be made in competition. Instead, it is often that the procurement of a system creates a monopolistic situation for the supplier that has developed the system (the commercial group). This drawback with long-term contracts can cause the supplier to become dominant in the power regime (Caldwell et al., 2005). Due to the increase of international operations it is difficult for FM to predict their demand for certain frequent materiel since the need could change rapidly. Sweden is not the only country with a need for a more flexible defence and this opens up for international cooperation according to the technical group. Through cooperation with other countries in procurements it is possible to gain more power in relation to the supplier and it is possible to share costs. Choosing a foreign supplier releases Sweden from the need to support the financial survival of the supplier since that is considered as the other country's responsibility.

Both the commercial group and the MoD group suggest that FMV uses arguments where it is said that a supplier has a unique competence in order to use direct procurement instead of competitive procurement. the commercial group mentions that the best way to ensure that it is a unique competence is to test it in competition with other suppliers. However, it is important to know the market before testing a unique competence. The monopolistic situation that is often the result of a unique competence is according to Wilding and Humphries (2006) vital to acknowledge. It could otherwise lead to a very negative situation for the customer. The risk of being stuck to a poor supplier put high demands on FMV's preparatory work and the commercial group claim that the most important step in procurement is the creation of the procurement strategy. the MoD group emphasised the importance of being a good customer in order to gain from the benefits of competition. This is something that FM's PPP strategy considers to be very important for FMV in the future (HKV 25 100:69043).

Another difficulty with competition in the defence equipment market is that the same company could own another supplier of the same materiel and that company could price the offers differently so that FMV is forced to choose the specific one. The use of competitive procurement results in poorer possibility to scrutinize the supplier and the risk is that the supplier offers an advantageous price for the first batch and when the customer is stuck to the system the supplier raises the price for upgrades and complementary orders to recoup the lost profit. Once again we could use the LCC iceberg as an example, a supplier could elude FMV to procure a system by offer an attractive price tag and then charge a higher price for the costs under the surface. Caldwell et al. (2005) have observed this problem and suggest that the PPE creates incentives where suppliers are awarded on excellence rather than sheer volume. There is also a risk that the supplier that underbid recoups their losses by cutting corners in their day-to-day work which could decrease the quality of the system (Caldwell, 2005). the commercial group claim that when the tendering process has been undertaken, one cannot change the specifications and this corresponds with van Weele (2002) who states that it would be considered to be unfair and unequal competition.

There is no doubt that competition is useful in procurements whit the correct prerequisites that is needed for creating a good competitive situation. To be able to utilize the market better and more frequent it is important to work for a better market situation. The best way for doing this is to conduct solid preparatory work that does not, on the one hand, exclude potential good suppliers and on the other hand invite doubtful suppliers.

5.3 Partnership

There is a congruency among the groups that complex procurements require a closer relation to the supplier in order to develop a successful product. The technical group emphasises that it does not matter what kind of procurement method used since it always requires a close relation once the supplier has been chosen. The commercial group for example think that it is important to have a strict relation before signing the contract. Erridge and Nondi (1994) explain that the EC directives reinforce the tendency of following these transparent procedures. It should be clarified that there is a difference between direct procurement and monopolistic procurement since a monopolistic procurement allows no other choice while in a direct procurement the supplier has been chosen for a specific reason and there is a theoretical possibility to choose another supplier (the commercial group). The choice of a direct procurement is often based on political reasons (the commercial group).

When discussing partnerships and closer relationships, between FMV and suppliers, there was congruence between the commercial group and the technical group that the long-term projects require common goals and joint efforts for solving problems. The groups were reluctant to the term partnership in their relation to the suppliers, they thought it was too strong, and rather used the term close relation. Erridge and Greer (2002) found in their research that purchasers from the public sector were confused of the meaning of partnership, creating an unwillingness of implementing the approach. This is perhaps the case for FMV and the MoD as well.

It is important for FMV to have a clear understanding of its role when it is on one day a customer to the industry and the other day a partner in the effort for exporting Swedish products. Personal relations are according to Wilding and Humphries (2006) very important once creating close relation between the buyer and supplier. There is no doubt that the historically close relation that has existed between FMV and the industry has created today's successful Swedish defence industry. However, the MoD group said that the close relation has created strong bonds that are difficult to rationalise in the ongoing restructuring of the Swedish defence. The close bonds FMV have built with the industry over the years could make them unaware of the global market and chose familiar suppliers by habit. The close relation with the industry in the past is according to FM's PPP strategy (HKV 25 100:69043), a strategic partnership. The other version of partnership, project alliances where there is more risk and reward sharing is more similar to the definition of partnership presented by Lambert et al. (1996).

5.3.1 Consequences of partnership

All three groups consider that complex materiel creates monopolistic situations. *"When choosing a complex system it also includes a choice of infrastructure that will last for several years"* (the commercial group). The choice of supplier in such situations is extra important since the chosen supplier must be able to update the system under its entire lifecycle. Estimating the LCC is very hard and as described by Parker and Hartley (1997), there is a chance that the supplier become more inefficient once the contract is obtained because the threat of competition has been removed. It is therefore important to sign contracts where the supplier has incentives to perform excellent (Caldwell et al., 2005). It is mentioned by both the commercial group and the technical group that FMV has developed a very difficult position towards their monopolistic suppliers, which has meant that there are very limited possibilities to influence. The supplier is considered the dominant part and FMV needs to ad-

just. the technical group says that many of the major suppliers have a key account manger towards FMV but that corresponding position does not exist at FMV. It is considered to be a great disadvantage by the technical group that FMV is unorganised towards its suppliers. By having a key account manager towards the major and monopolistic suppliers it would be possible to coordinate all the relations in a better way and would give FMV greater ability to act toward its supplier. This is also what Caldwell et al. (2005) suggests for managing supplier relations in their study.

When having a closer relation with the supplier it is according to the commercial group possible to use the supplier as a resource rather than just as a supplier. When the relation is too strict there is a risk that the supplier's creativity can be restrained. It is important to remember that the supplier has the competence for developing the system and that FM is the actual user. By jointly discuss and create solutions that satisfy FM's need, it is possible to make use of the competence that the supplier has. Such cooperation would bring greater value for money in terms of both effectiveness and efficiency. However, the report from Ernst & Young referred to in Britz (2006) disclose that the industry believe the bureaucracy at FMV weakens their flexibility to use their resources effectively and efficiently. Thus, the bureaucracy at FMV is perhaps limiting the possibility to harvest the result of a good partnership. This was also emphasised by the technical group when saying that it is easier to create an effective relation on the lower levels where the focus is more on technical issues rather than commercial issues. This problem is discussed in Erridge and Greer (2002), the private sector organisations are often more focused on profit compared to the public sector, which are more concerned about the satisfaction of their stakeholders, the public. It is therefore easier to be effective and efficient on lower levels, where employees focus more on the quality of the system and strive to make the best possible solution. Thus, by solving contractual issues early on in the project it is easier for both parties to focus on the joint result.

Procurement of complex systems often takes several years and the technology is developed simultaneously, which means that new and better technology could become available. the commercial group means that both parties can gain on implementing the new technology since it gives the supplier a better product for the market and FM gets a better product. If the industry can earn money on the cooperation it often is useful for FMV as well (the commercial group). In order to achieve a close relationship it is important to share resources and competences to make the cooperation as effective as possible. Lambert et al. (1996) claim that the drivers for establishing a partnership are unlikely to be the same for both parties, but they need to be strong for both in order to make it work. Partnership facilitators are according to Lambert et al. (1996) supportive corporate environments that enhance partnership growth and development. the commercial group claim that if the industry makes money on the relationship then FMV could benefit from it as well. One common driver for a partnership would be to expand the market. FMV could help the supplier to expand their market through export help and demonstrations. Consequently, by exporting the product to other countries, FMV can share development and other fixed costs with other customers.

There is much to be gained from having a close relation with a supplier but it is also considered to be a great risk with such a commitment. Due to the risk involved in a commitment, there is reluctance towards partnerships at FMV (the technical group). Many of the systems today require FMV to ensures that the supplier maintains a certain degree of competence and that the supplier does not go into bankruptcy. *"It is like you are stuck in a circle, if it is good or bad is a question of what you believe in"* (C3). From a short-term perspective, it is not

cost-efficient to supply certain suppliers with orders on a continuous basis to ensure that the competence will be sustained. If on the other hand the supplier should go into bankruptcy it would be necessary to replace the system and that would impose great additional cost from a LCC perspective. The objective today is that the supplier should take greater responsibility over the entire lifecycle (the MoD group). An interesting question is whether this objective means that FMV will increase or decrease the dependency on the supplier compared to what has been the case earlier. At the same time there is reluctance for closer commitments and the risks that it implies. With the new objective, there is no need for having competence for developing products at both the private and the public side. However, it could be questioned if transferring responsibility to the supplier also means a greater dependency. Britz (2006) for example claim that the new objective will require closer relations between the industry and FMV. This is probable in the near future with more PPP projects where the industry take over more parts of the required competence. Consequently, FMV becomes more dependent on the industry to provide them with required competence.

5.4 Swedish Defence Industry

It is difficult to define what Swedish defence industry is since a majority is owned by foreign companies. the MoD group says that the issue is something that has been discussed a lot at the MoD and that a definition often used is; *"In Sweden active defence industry, companies that produce and supply products and services to customers within the defence sector"* (the MoD group). The definition suggests that it does not matter who owns the industry as long as it is active in Sweden.

All three groups emphasises that Sweden has a very good reputation for its defence industrial competence. The Swedish defence industry was previously owned by the State to a large extent and that meant that the industry only worked towards Sweden (the commercial group). The State has lived in symbiosis with the industry since the end of WWII and that has created a dependency that is difficult to change (the technical group). There has been a jointly development of complex systems in a relatively short time that has been good in comparison to other nations products (the technical group). Social interaction could, according to Erridge and Greer (2002), have both positive and negative implications on the relationship. The positive aspects are that it helps in building trust, reduce the level of opportunism, increase information transparency and create willingness towards cooperation. It could also result in rigidity and lack of new ideas and knowledge. Thus, it is vital to find a good balance that will maximize the advantages and minimize the disadvantages. Both the advantages and the disadvantages could be found in existing relationships.

The Swedish defence industry has historically developed a unique Swedish concept and that has resulted in that the Swedish government has been forced to take all development costs (the commercial group). This is however seldom the case nowadays due to Sweden's increased participation in international operations, where it is required to be more or less compatible with other countries (mostly other European countries). There are other countries that are not so keen on cross-border competition since defence industries, in some countries, are governmentally owned (the commercial group). Another reason for this could be that the defence industry is considered to be a resource for the security policy (the MoD group). It could in some cases be very dramatic choices when it is either to buy from a Swedish supplier or it will disappear. This creates a mental monopoly that is often chosen to be sustained (the MoD group). the technical group says that the Swedish defence industry has been chosen due to the close relationship that has existed. That is something that

the MoD group want to change since it is considered that many of the procurements are directed to Swedish defence industry through habit. the MoD group also sees the possibilities that a Swedish defence industry provides the possibility to stimulate Swedish industry and technology development.

In international operations, it is according to the MoD group important to have a domestic defence industry to quickly supply the forces with equipment. Being a relative small customer like Sweden can be difficult when the demand is high at the international suppliers who have other major customers that tend to pass the line (the MoD group). The commercial group focus on a different perspective when discussing the Swedish defence industry and international operations since the Swedish concepts has created problems in international operations. the MoD group says that Sweden is just one among many with special configurations and unique concepts.

5.4.1 The importance of Swedish defence industry

There is a general view that the relationship with the Swedish defence industry has developed Sweden to become a very attractive partner for international collaborations. *"Deciding upon the importance of the Swedish defence industry involves political values that we are not able to answer but we have benefited from having a strong defence industry in Sweden. We have, as an example, been able to develop close relations with other nations with the help of the defence industry"* (the MoD group). the commercial group claims that Swedish defence industry is crucial for international defence equipment collaborations and gives the following example; "*If you do not have the toys you are not allowed to play and our toys is our industrial capacity. Without it we are just a buyer".* the MoD group emphasises the following; *"Without a Swedish defence industry it is impossible to be a part of international materiel collaboration. Sweden needs to contribute with something. You will never get access to the latest products if you only bring money and it is a great chance it might get expensive".* The answer implies that Swedish defence industry is decisive for international defence equipment cooperation. With the intention to increase the number of international collaborations in the future, it is according to the groups important to have domestic competence to contribute with. However, the decreased investments made in the Swedish defence industry could mean that Sweden will become a less attractive partner in the future. Without any competence to trade in return, it is probable that the products will become more expensive and it might even be with less quality and performance. This could lead to less cost-efficient procurements.

the technical group consider it important to have a Swedish defence industry in order to keep a full military ability since crucial materiel is not accessible without being able to offer something in return. This is something that the MoD group considers as a mental barrier at FMV and FM. It is according to the MoD group possible to supply FM with defence equipment without a domestic industry. This is strengthened by the example of Denmark who has an almost full military ability without any domestic defence industry. It is however acknowledged by the MoD group that the Swedish defence industry is important for maintaining the current systems since a majority of the materiel used today are made in Sweden.

The close relation between FMV and the industry is considered to create problems in procurement. The commercial group suggests that the movement of personnel between FMV, FM and the industry creates problems since it is difficult to know who to be loyal to. This is also considered as a problem in the MoD group. There is of course an advantage for the industry to recruit personnel with experience from FMV and FM since it gives a good insight into their needs and wants. With the new objective that the industry should take a

greater responsibility over the lifecycle could mean that it is positive that the supplier recruit personnel from the customer.

There are certain contradictions on the subject of Swedish defence industry. The three groups claim that the close relation with the Swedish industry has provided them with several very cost-efficient and competitive solutions in the past but nevertheless, they are positive that the international market generates better procurements. It was discussed in the MoD group if the Swedish suppliers had the best knowledge of the environment in which many of today's operations are held. Perhaps an international supplier could provide more competence within certain areas and thus generate more value for money. On the other hand, the uncertainty in demand also entails more flexibility in the materiel supply process and it could be important to have a close relation with a domestic supplier that could deliver and modify materiel on short notice.

From the empirical findings, it is difficult to decide whether it is more cost-efficient with a close relationship to the Swedish defence industry or if it is better to keep them at arm's length distance. It is even harder to discuss what effect it has in the long run, either one could both be fruitful and inefficient. It is difficult to discern a general answer since each situation is unique. When discussing the importance of Swedish defence industry, the most important question is for whom it should be cost-efficient. All groups claimed that it would be cheaper in most cases to buy from a foreign supplier, but if that imply more cost-efficient procurement is difficult to say. As an example, procurements made in other countries will not generate tax revenue to the public treasury neither will it provide more job opportunities. There are according to the MoD group no investigations performed in the subject and therefore impossible to accept or reject the assertion that buying domestically is more cost-efficient even though it is a more expensive product. The defence industry does, however, contribute to the society by for example produce a lot of skilled engineers (the MoD group).

The issue is difficult since there are many political aspects that can be included in the discussion of cost-efficiency. However, it is important to acknowledge that it has a great influence on Swedish defence procurement and that it therefore needs to be clarified so that FMV can be more accurate in their estimation of what is cost-efficient and what is not.

5.5 The Governing Process

The discussion on the relations between FMV, FM and the MoD has given the most divergent result and this could be summarised by what was said in the MoD group; *"Everyone seems to be clear about the division of roles in the public network but the view on how it actually works differs depending on where you sit"*. One thing that is repeatedly emphasised is that the role-play between FM and FMV must become clearer and that FM should give more functional demands in their order to FMV. the MoD group says that the MoD tries to refine this relation and make FM express their need for ability rather than the need for a certain product. the commercial group mentions that it is the rate of the day at FM that decides what system to invest in. It has gone so far that FMV has had to discontinue procurement because of changed focus at FM (the commercial group). It is once again interesting to use the research of Ernst & Young presented in Britz (2006), on FMV's strengths. FMV was described as good; project leaders, to consider the overall picture, to possess the industrial competence and know what was producible, talented in transforming military demands into technological specifications and to be good bargainers and to possess a great deal commercial and legal competence. In order for FMV to fully use their skills, FM must give more

functional demands in their orders. The more FM specify the harder it is for FMV to conduct cost-efficient procurements since it will restrain the market opportunities. Procurements are more likely to attract more suppliers when FMV specify more functional demands than technical demands and thereby letting the industry fully use their own competence and creativity to develop a solution that fulfils the need. This is also described as one of the intentions behind PPP in FM's PPP strategy (HKV 25 100:69043).

the commercial group says that it is the Government and the Parliament that creates the rules of the game for procurements and that it is FMV that controls the process. The MoD controls FMV both directly and indirectly, indirectly through FM and sometimes directly as for example how to conduct certain procurements (the MoD group). The more complex procurement the more likely it is that FMV can make an exception from LOU (the commercial group). Having an exception from LOU gives a greater freedom and flexibility for FMV to control the procurement process. The two focus groups at FMV feel that the policy documents and LOU tie them up. The commercial group says that they are not adapted for procurement of defence materiel. The technical group describes that it is like a jungle of laws controlling the procurement that creates a lot of frustration at FMV. According to Erridge and Nondi (1994), the EC directives are emphasising a formal tendering process, promoting many suppliers and supports the maintaining of arm's length relationships with suppliers. The result is a bureaucratic procedure with limited flexibility, at least before the chosen supplier has been awarded. Sweden is said to try and be best in class when it comes to interpret the EC procurement directives and that has resulted in a strict public procurement act. The risk awareness at FMV result in that FMV tries to be on the safe side instead of taking a risk. Both the commercial group and the technical group mean that the flexibility lies at the politicians and that it affects cost-efficiency in a negative way. the MoD group the other hand consider FMV to be very flexible in their procurement but acknowledge that LOU might not be customised for defence procurements. The government control is said by the commercial group to be floating and not clear due to natural reasons. Other countries have in comparison to Sweden allowed more freedom when it comes to defence procurements. It is interesting that FMV perceives them to be controlled and that it affects cost-efficiency. The commercial group claims to be as flexible as possible but the risk of stand trial tend to make FMV take the safe side. There is nothing for the supplier to loose in making an appeal against the outcome and it is used quite often (the technical group). It is considered to be a way of sabotaging for the competitor that received the order. Erridge and Greer (2002) explained that the threat of audit and legal affairs have created a risk-averse culture within the public sector. They believe that the risk is higher than the benefits of stretching the rules. The responsible project leader does not have any personal incentives for making a better deal and thus it is easier to be on the safe side.

There are no doubts that LOU has its flaws and both the commercial group and the MoD group says that the European Commission has developed new procurement directives that will be implemented within a short time period. The new directives include a procurement procedure that is called competitive dialog and can according to the commercial group solve many of the problems connected to competitive procurement. In FM's PPP strategy (HKV 25 100:69043) it is described that competitive dialog is very promising from a PPP perspective. Competitive dialogue can facilitate the preparatory work for FMV in complex procurements. The industry can also take advantage of the new procurement procedure since it becomes easier to understand the functional requirements. Through a discussion with the supplier it can be easier to translate the functional demands into technical specifications. The new objectives results in that the competence is moved from FM to FMV and from FMV to the industry and that will take a long time to implement (the technical

group). The new procurement procedure can therefore be a suitable tool for developing new products and systems.

One of the new objectives for defence procurement is to have more PPP with the industry. In connection to discussion on PPP in the technical group, an interesting question was raised. *"If the major advantage of using PPP is to get around LOU, then perhaps it should be investigated what a change in the application of LOU would result in"*. This is according to FM's PPP strategy an incorrect statement where it is clarified that PPP is not to be considered as a shortcut past the process of public procurement. It is also mentioned that there are no legal obstacles that prevents the use of PPP. The important finding here is that there is disunity around PPP, its purpose and aim. There must be unanimity about PPP and it must be communicated throughout the organisation. Every employee working with it must have an unambiguous definition and a thorough knowledge of it. It could otherwise be as the case of partnership where Erridge and Greer (2002) found that the lack of knowledge on partnership created reluctance towards using it.

The MoD group consider the MoD to be in a position where FMV possess the knowledge on issues concerning procurement and the MoD is dependent on the information provided by FMV. The best tool available for the MoD to control and impose cost reduction at FMV is economical measures (the MoD group). The third group also admits that the MoD is poor at evaluating FMV's procurement. FM is both customer and user of the product and should therefore according to the MoD group be responsible for the evaluation. The commercial group also says that the evaluation is insufficient and that the evaluation only is towards milestones. The milestones are activity-based and it mostly controls that the milestones is fulfilled. This could mean that FMV accept doubtful deliveries to FM in order to mange the milestones (the commercial group). FMV is very much focused on its owner, which means that the focus is more on the operations in the organisation instead on what should be produced, cost-efficient procurements (the technical group). The owner focus is also said to contribute to the risk awareness.

The MoD is considered by the MoD group to have an open dialogue with FMV but while the controlling process is perceived to be formal. The commercial group claim that there is a rudimentary knowledge of what is actually written in the policy documents and the content is interpreted differently from person to person. It was also revealed during the commercial group that there is documents developed at the different departments at FMV that are perceived to be official. It is also said by the commercial group that certain persons can combine different parts of the policy documents to create one that suits their own interests. It is impossible to say to what extent this is utilized but nevertheless it is an inappropriate method to use. The policy documents should be general to allow for flexibility in procurement, hence there will always be a risk for different interpretations, however, one cannot create own documents to support ones own interests.

The governing process does affect cost-efficiency in procurements and it is interesting to discuss if it is possible to be cost-efficient in a long-term perspective with short-term planning as the commercial group and the MoD group mentioned. It is difficult to be cost-efficient from a long-term perspective if the evaluation is on short-term goals. It would therefore be better with more patience from the owner (the Government) in the evaluation of FMV's procurements. One reason for poor cost-efficiency is that the project manager makes the budget for the procurement and it is common that the project manager add to the budget since he/she knows it will be reduced in different steps. Once the appropriation is received the goal is to get equal to nil. The lack of incentives to make a good deal does not encourage cost-efficient procurements. The flexibility desired from FM could in many

ways jeopardise cost-efficient solutions in the long run. If FM wants to secure proprietorship on its systems, then they will have to pay for it. This gives flexibility in changing supplier, but for many of the systems it is unlikely that another supplier than the one originally developed it could be more cost-efficient. Thus, it is difficult to be flexible. The groups are reluctant towards long-term contracts with suppliers and favour the short-term. Transaction cost theory and relationship theory favour long-term contracts over short-term but that does not prove to be better than short-term when there is an uncertainty in demand. From FMV's point of view, having a more long-term materiel strategy would be favourable for making cost-efficient procurements.

There appears to be a congruency on the goals and objectives between FMV and the MoD, which is very good. Unfortunately this is not enough for achieving the objectives. It is important that both FMV and the MoD agree on the means that should be used for achieving common objectives. The uncertainty could otherwise lead to misinterpretations on how the objective should be fulfilled which could lead to risk awareness. This risk awareness could result in very strict interpretations of laws and policy documents but it could also mean that things are done the way they always have been done. It is therefore important to clarify the road towards finalizing the objectives. This would allow both parties to work, not only towards the same direction, but also in the same direction.

5.6 Summing up the results

Defence procurement in Sweden is a fairly complex subject and the analysis has included many different aspects. Table 5-1 below is a summery of the three different groups and their view on the five areas in the analysis, cost-efficiency, competition, partnership, Swedish defence industry and the governing process. It is not possible to highlight all the aspects from each group but the intention is to recall the more interesting thoughts from each group.

Table 5-1. Important aspects of the analysis

	The commercial group	**The technical group**	**The MoD group**
Cost-efficiency	Economize with tax revenue and procure what is best for FM	Knowing the effect of the procured system over the entire lifecycle	Good enough over the system's lifecycle where it is important to find a balance between price and quality
Competition	Competition leads to better quality and a lower price	Suitable for mature markets with already existing products	International procurement in competition reduces the risk of having to support the financial survival of the supplier.
Partnership	It is a major risk to take when choosing to be tied up to a supplier	Long-term projects requires a focus on common problems and goals	The close cooperation that has existed between FMV and the industry has created a very successful defence industry
Swedish defence industry	Decisive for international materiel cooperation	Decisive for international materiel cooperation	It has created a mental monopoly that is chosen to be sustained
The governing process	There is a rather rudimentary knowledge of what is said in LOU and the policy documents	FMV is oriented towards its owner and that results in a focus on improving the organisation instead of making the procurements more cost-efficient	The best tool available for governing FMV is economical measures that forces cost-reductions at FMV

This table highlights that there are differences between the three groups on most subjects and that is perhaps not so surprising since different people have different views. There are however many similarities as well as for example between the two groups at FMV on the importance of the Swedish defence industry in international materiel collaborations.

6 Conclusion

The term cost-efficiency has been central throughout this thesis where the purpose has been to compare FMV's and the MoD's view on the term and discuss the potential differences. When considering the analysis, it is possible to see that there are differences on the subject. Although the differences, there are many similarities as well.

Our first conclusion in this study is that there is no clear view on what cost-efficiency is in Swedish defence procurement. The three focus groups have different views on what the term actually mean. The first group thought it was to economize with tax revenue, the second group considered it to be to know the effect of the purchased system over the entire lifecycle and the third group considered cost-efficiency as something that is 'good enough'. If political aspects are disregarded, combining the views of the three groups could result in the following definition; cost-efficient procurements should be good enough in order to satisfy FM's demand throughout the systems entire life cycle. However, without a clear definition of cost-efficiency it is difficult to use it as an objective for defence procurement in Sweden, which is the case in FM's PPP strategy (HKV 25 100:69043). Thus, it is important to develop a straightforward definition on what is cost-efficient and what is not. Without a clear definition it is difficult to evaluate procurements and if considering the citation by Kaplan and Atkinson (1998, p 565), *"if you can't measure what you want, want what you can measure"*, the objective for defence procurements should perhaps be changed. The term value for money (Erridge & Nondi, 1994) could be useful for describing cost-efficiency in defence procurement in a more hands-on way. The three concepts economy, efficiency and effectiveness could facilitate the understanding of cost-efficiency. Economy and efficiency is closely connected to the benefits that can be gained through the use of competitive procurement while the concept of effectiveness is connected to the benefits given through a close partnership with the supplier. However, in order to find a definition for cost-efficiency it is important to clarify for whom it is supposed to be cost-efficient.

The second objective for this study was to compare FMV and the MoD's view on how cost-efficiency could be achieved. The study did not find a common definition for the term cost-efficiency and thus it is difficult to discuss how it can be achieved. However, if the diverse views on cost-efficiency are considered to be similar enough for a comparison to be made between the groups, it is interesting to conclude that competition in procurement is considered as very important for conducting cost-efficient procurements. However, the groups considered LOU to be an obstacle for conducting real good and cost-efficient procurements. When discussing partnerships, the three groups agreed that it could contribute to cost-efficiency if it worked. There were reluctance towards the concept of partnership and the groups would rather describe it as a good relationship. In order to gain from the benefits of both competition and partnership it is as suggested by Erridge and Nondi (2002) useful for FMV to utilize competition when choosing a supplier and once the contract is signed establish a partnership with the supplier. Another thing that was considered to be important for achieving cost-efficiency in Swedish defence procurement was to have clearer roles between FM and FMV. It was emphasised that FM should describe their need for ability rather than a product, which would allow FMV to utilize the market in a better way. It was also stressed that better long-term and stable planning, together with more customer-focused evaluation, are requirements for cost-efficient procurement. The above described factors for improving cost-efficiency was similar for the three groups but there were also factors that differed between the groups. The MoD group thought that better cost-efficiency could be achieved through economical measures such as reduction of work-

force. In contradiction, the groups at FMV thought that more resources were required in order to make specifications that would allow for the use of competitive procurement and thus better cost-efficiency. It can be concluded from the analysis that the three groups share the goal of improving cost-efficiency in Swedish defence procurement but that the mean for achieving the goal is somewhat different between FMV and the MoD. This further stresses that the view on cost-efficiency is different between the two organisations.

When discussing the role of Swedish defence industry for conducting cost-efficient procurements, the three groups agrees that having domestic industrial capacity is vital for taking part in international cooperation. Without the domestic competence Sweden would not be considered as a partner in the cooperation but instead become a buyer, which would according to the groups result in more expensive materiel. Thus, having a Swedish defence industry is important for conducting cost-efficient procurements. The second FMV group suggested that a Swedish defence industry is vital for having full military ability while the MoD group thought that it would be possible to supply FM with materiel without a domestic industry. With the intention of implementing more and more PPP between FMV and the industry it is obvious that the Swedish defence industry will become even more important for achieving cost-efficiency in the future. The intention to let the industry take more responsibility in the products lifecycle will increase FMV's dependence on the industry.

6.1 Reflection

It is positive to see that FMV and the MoD share the same goal of becoming more cost-efficient. However, it is difficult to know when the goal or objective has been achieved if there are uncertainties on what it actually is. With no clear definition on what is to be considered as cost-efficiency it is possible to claim everything to be cost-efficient, it is just to find the right perspective. With s clearer policy on cost-efficiency in defence procurement, the perceived uncertainty at FMV on what is to be considered as correct according to rules and regulations could be reduced. This would allow FMV to use their competences for improving cost-efficiency in Swedish defence procurement. It is our view that FMV has the ability to conduct very cost-efficient procurements if the tools were available. The new EC-directive, competitive dialogue, could allow for less strict procurements. Together with PPP projects, it is possible for FMV to utilize the industry in a better way than what has been possible before. PPP could provide the benefits of competition in the selecting process and combine that with the collaborative development of systems for FM that is possible in a close partnership. However, it is important to clarify the intention of PPP so that there is a clear understanding of what it is. It would be of interest for future studies to see the effects of PPP in Swedish defence procurement. There are potential with the new procurement method, however it is required that the regulations are adapted for such a procurement method. It would also be interesting to study how PPP projects are perceived by the industry.

During this study, it has been difficult to completely ignore the political aspects that are central when discussing defence procurement, with or without a Swedish defence industry. The three groups have had it difficult to say exactly how important the defence industry is for cost-efficient procurements and consider it to be political valuations that are not part of their role. In order to make cost-efficient procurements, the three groups think that the market should be used as much as possible and that would in most cases mean to buy from a foreign supplier. It was found during the study that other countries within the EC do not share Sweden's view on competition and that other countries are not so keen on using for-

eign suppliers when there is a domestic supplier available. One of the reasons for having competitive procurements on an international market is to sustain the competitive situation. If all countries reasoned the same way as Sweden, it would be possible to develop a very competitive international market but if other countries do not contribute to the competitive situation it could result in that Sweden actually reduces the competitive situation. Swedish defence industry would with most certainty reduce dramatically in such a scenario and the defence market would be concentrated around a few major global suppliers. The result would be that the international competition is reduced and the Swedish defence industry is forced into bankruptcy.

Another interesting discussion could be around Sweden's interpretation of the EC procurement directives and the development of LOU. The commercial group meant the other countries have given themselves far more freedom when it comes to defence procurement. The group considered the strict interpretation that is found in Sweden jeopardises cost-efficiency in defence procurement. It would therefore be of interest to see if a less strict interpretation of LOU and the EC directives could lead to more cost-efficient procurement. If a less strict application of LOU would mean that the cost-efficiency in Swedish defence procurement were improved, it could be questioned why Sweden have chosen this strict interpretation of the EC procurement directives when other countries have not.

6.1.1 The Study

The study has been interesting but complex. Defence procurement is a complex issue that is dependent on political aspects that are difficult to fully ignore. There are always unanswered questions that would have added additional dimensions to the study. One additional dimension that would have been of interest would be to compare the result of this study with a similar study at FM. With the use of focus groups, this study has produced a lot of empirical data. The empirical data could appear as unstructured due to the intention of keeping the data unprocessed so that it could be used in other studies and allow the reader to draw their own conclusions.

Studying the view is something that is difficult to study and it would therefore have been interesting to have additional focus groups that would have given a better representation of FMV and the MoD as organisations.

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APPENDIX A: DIRECTIVE 2004/18/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

“Competitive dialogue” is a procedure in which any economic operator may request to participate and whereby the contracting authority conducts a dialogue with the candidates admitted to that procedure, with the aim of developing one or more suitable alternatives capable of meeting its requirements, and on the basis of which the candidates chosen are invited to tender.

Article 28
Use of open, restricted and negotiated procedures and of competitive dialogue
In awarding their public contracts, contracting authorities shall apply the national procedures adjusted for the purposes of this Directive.

They shall award these public contracts by applying the open or restricted procedure. In the specific circumstances expressly provided for in Article 29, contracting authorities may award their public contracts by means of the competitive dialogue. In the specific cases and circumstances referred to expressly in Articles 30 and 31, they may apply a negotiated procedure, with or without publication of the contract notice.

Article 29
Competitive dialogue
1. In the case of particularly complex contracts, Member States may provide that where contracting authorities consider that the use of the open or restricted procedure will not allow the award of the contract, the latter may make use of the competitive dialogue in accordance with this Article.

A public contract shall be awarded on the sole basis of the award criterion for the most economically advantageous tender.

2. Contracting authorities shall publish a contract notice setting out their needs and requirements, which they shall define in that notice and/or in a descriptive document.

3. Contracting authorities shall open, with the candidates selected in accordance with the relevant provisions of Articles 44 to 52, a dialogue the aim of which shall be to identify and define the means best suited to satisfying their needs. They may discuss all aspects of the contract with the chosen candidates during this dialogue. During the dialogue, contracting authorities shall ensure equality of treatment among all tenderers. In particular, they shall not provide information in a discriminatory manner which may give some tenderers an advantage over others.

Contracting authorities may not reveal to the other participants solutions proposed or other confidential information communicated by a candidate participating in the dialogue without his/her agreement.

4. Contracting authorities may provide for the procedure to take place in successive stages in order to reduce the number of solutions to be discussed during the dialogue stage by applying the award criteria in the contract notice or the descriptive document. The contract notice or the descriptive document shall indicate that recourse may be had to this option.

5. The contracting authority shall continue such dialogue until it can identify the solution or solutions, if necessary after comparing them, which are capable of meeting its needs.

6. Having declared that the dialogue is concluded and having so informed the participants, contracting authorities shall ask them to submit their final tenders on the basis of the solution or solutions presented and specified during the dialogue. These tenders shall contain all the elements required and necessary for the performance of the project.

These tenders may be clarified, specified and fine-tuned at the request of the contracting authority. However, such clarification, specification, fine-tuning or additional information may not involve changes to the basic features of the tender or the call for tender, variations in which are likely to distort competition or have a discriminatory effect.

7. Contracting authorities shall assess the tenders received on the basis of the award criteria laid down in the contract notice or the descriptive document and shall choose the most economically advantageous tender in accordance with Article 53.

At the request of the contracting authority, the tenderer identified as having submitted the most economically advantageous tender may be asked to clarify aspects of the tender or confirm commitments contained in the tender provided this does not have the effect of modifying substantial aspects of the tender or of the call for tender and does not risk distorting competition or causing discrimination.

8. The contracting authorities may specify prices or payments to the participants in the dialogue.

Appendix B: Questions and Topics

Focus Group 1 and 2:

Opening question:
Briefly describe your current position at FMV.

Introductory questions:
What do you think of when you hear the term cost-efficiency?
What characterize a good relation with a supplier?

Transition questions:
- What different procurement methods exist and how are those applicable for defence procurement?
- Where would you place the current procurement methods, if you consider the model provided (Appendix B)?

Key questions:
- Describe the advantages with competitive bidding?
    - Price?
    - Quality?
- Describe the disadvantages with competitive bidding?
    - Possibility to involve the suppliers in early phases?
    - Does the monopolistic situation exist and if, how is it handled?
    - How do you determine which alternative that is the best?
    - To what extent are you able to discuss with suppliers and develop the system?
- How are your supplier relations today?
    - Are there any reasons for change?
    - What are the advantages with closer supplier relationships?
    - What are the disadvantages with closer supplier relationships?
    - How is the supplier relationship affected when competitive bidding is used for additional procurements and developments?
- To what extent is FMV flexible in their choice of procurement method considering current legislations and policy documents?
    - Who is responsible for the governing process?
    - Who is responsible for what; MoD? Government? Riksdagen? FM? NOU? ESV?
    - How is the governing process conducted?
    - Is there an incorrect image of the governing process?
    - Would more flexibility in the procurement method change anything?
    - How important is it to keep the Swedish competence within the domestic defence industry?
    - How important is it with successful domestic competence in international materiel cooperation?
    - Do orders to the Swedish defence industry create additional value from a socioeconomic perspective that is considered when awarding suppliers?
    - How important is the Swedish defence industry in international operations?

    - For materiel developments?
    - Time aspects?

Ending Questions:

- How could the current procurement process be improved?
- Are there important aspects not mentioned and does something need to be further emphasised?

Focus Group 3:

Opening question:

- Describe briefly your current position at the MoD.

Introductory questions:

- Describe the role-play between the different departments; FM, FMV, MoD, Regering and Riksdag?
- What do you think of when you hear the term cost-efficiency?

Transition questions:

- What different forms of procurement methods exist and how are these applicable in defence procurement?
- Where would you place the procurement methods, if you consider the model provided. (Appendix B)?

Key questions:

- Explain pros and cons with competitive bidding?
    - Price?
    - Quality?
    - Communication?

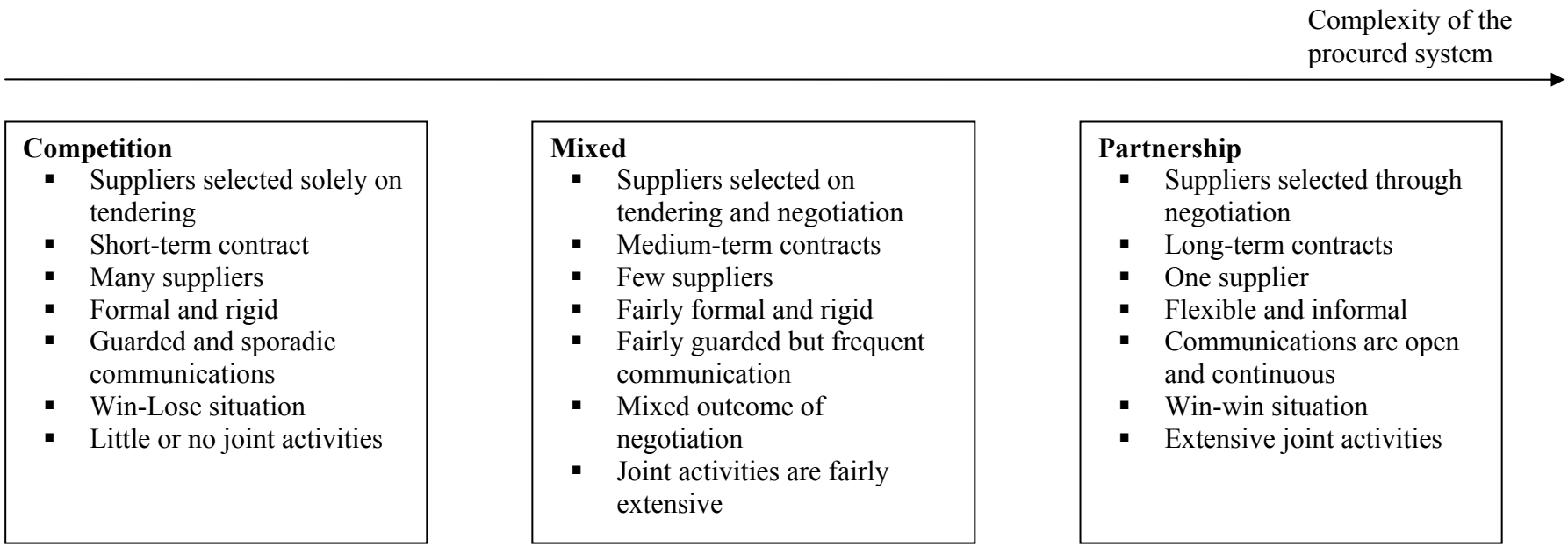
- Does monopolistic situations exist and if, how is it controlled?
- Explain pros and cons with partnership/close relation to the supplier?
- To what extend do you consider FMV to be flexible in choice of procurement method with consideration to current regulations?
    - Who is responsible for the governing process?
    - How is the governing process realized?
    - Who takes the decisions for making an exception to LOU 6 §17?
    - When is such an exception made and for what reasons?
    - Would more flexibility in procurement method change anything?

- Define the term Swedish defence industry?
- How important is it to keep the competence within the Swedish defence industry?
    - How important is it to have successful domestic competence in international cooperation?
    - Do orders to the Swedish defence industry create additional value from a socioeconomic perspective that is considered in awarding suppliers?

    - How important is the Swedish defence industry in international operations?
        - For materiel developments?
        - Time aspects?
- How are procurements made by FMV evaluated?
- Is it possible with different types of relationships with the same supplier?

Ending Questions:

- How could the current procurement process be improved?
- Are there important aspects not mentioned earlier and are there things that needs to be emphasises?

APPENDIX C

Procurement models and complexity of the procured system