



# Master's degree thesis

**LOG950 Logistics**

**Governmental buyers' enforcement-decisions of  
contractual penalty clauses ex post  
- A case study of Norwegian Defence Procurement  
Projects**

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## **Preface**

This thesis is the final research work for my Master degree (MSc in Logistics Program) at Molde University College.

The prime focus of this work has been to investigate how enforcement of penalty clauses towards suppliers might impact project success for a governmental buyer such as the Norwegian Armed Forces.

The initiative for this research programme came from own working experience with procurement in the Norwegian Armed Forces, courses taken at Molde University College, observations of headlines in the news regarding delays and conflicts in military procurement projects, and ultimately when the manager for the contract division at Haakonsværn naval base barely had time to speak to me, because he was occupied with how to handle the delays in current large procurement projects like Norway's new frigates, and motor torpedo boats.

I would like to thank my valentine Hege for being very supportive for me to study in my "adulthood". I know it hasn't always been easy with an infant, having me alternating between Molde and Bergen. You really showed some good spirit. I would also like to thank the project and contract officers that let me make use of their busy time, and my supervisor Associate Professor Nigel Halpern for encouragement and feedback along the winding path.

Just as all contracts are incomplete (due to bounded rationality and transactions costs), I feel this thesis also is incomplete. Sometimes I have wondered if academia's intention with having student's write master thesis is to teach them humility. After long nights examining scholars work regarding logistics, law and methodology, this thesis is handed in with a huge amount of humility.

In Umberto Eco's legendary academic-writing cook-book "Come si fa una tesi di laurea" written for Italian students within humanities, Eco humorously expresses that when you are writing a dissertation paper you only think of the moment you are finished (Eco, 2002). But if you have worked properly, the usual reaction after dissertation is that one is gripped by fierce desire to work (ibid.).

This is a sign that the dissertation has enabled the intellectual metabolism in your body, and you are now victim of a need to research (ibid.). If I become a victim of a need to research remains to be seen.

Bergen, May 2011

Gisle Uthaug

## Summary

The growths in the analysis of inter-firm contractual relationship that has occurred in recent years is an indication of the importance economists' associate with the issue of contracting and contract design (Masten & Saussier, 2002). However, none has to the author's knowledge written about buyers enforcement decisions of contractual penalty clauses, although these decisions are not rare and often difficult to handle. The problem occurs as a consequence from delays to the left (upstream) for the focal firm in a traditional supply chain model, placing the problem within the purchasing-literature. Compared with other business disciplines relatively little academic research has been undertaken in the area of purchasing, explaining why there is quite a gap in the development of a solid body of knowledge compared with other disciplines in business administration (Van Weele, 2005). Market and organizational coordination are the two ideal types of coordination device for economic transactions, but in real life we usually encounter hybrid types of organizations (Douma & Schreuder, 2008), where the contract is a common coordination device. Contracts provide an evolving governance structure for relationships (Seshadri & Mishra, 2004), and a large and growing literature has analyzed the inefficiencies that arise in a world in which contracts are incomplete (Anderlini & Felli, 2004). Contracting parties may stipulate in advance the amount for compensation when there is a breach of contract (Hagstrøm, 2003), what is called a penalty clause. These clauses can have multiple objectives, were providing incentives for the supplier to deliver on-time are one of them. A number of authors and recent experimental studies suggest that sanctions, controls and explicit incentives can crowd out intrinsic motivation and may even be counterproductive (Herold, 2010), and a large number of experimental and field studies indicate that economic decisions are in many cases motivated not only by material self interest, but also by concerns for fairness (Stanca et al. 2009).

This thesis therefore seeks out to answer how enforcement of penalty clauses impact supplier's incentives and behavior, and how this impact the success of governmental projects. It will do so by employing a single case study approach where it holds the Norwegian Armed Forces and their contractual framework as the collective unit of analysis, and seeks out to explore the phenomenon of delays and use of penalty clauses in a governmental buyers' contract design. It attempts doing so by utilizing a cross-sectional semi structured interview design to access primary data from a sample of nine contract officers and project managers in the Norwegian Armed Forces, and retrieve secondary data

from laws, instructions, propositions and reports. It mainly builds its foundation on theories within purchasing and contract theory, especially agency theory and transaction cost economics.

In commercial businesses project delays and cost overruns are becoming major problems in many projects (Bubshait, 2003), and this is also the issue in the Armed Forces projects (OAD PR 13/2005). Van Weele (2005) argues that decision making within governmental bodies is far from transparent, due to the many stakeholders involved, the often conflicting interests among these, and the many political aspects that need to be considered, and this explains why decision making concerning, for instance, buying defence equipment is often troublesome and difficult to manage. The findings of the study are vague, but indicate that there is widespread opinions to the effect penalty clause have on the Armed Forces projects, and that further studies are necessary to better understand the phenomenon. The problem of penalty clauses is one of the very few in contract law and economic where there is considerable disagreement among economists, but also among legal scholars (Hatzis, 2003).

The value of this research for both scholars and the Armed Forces is a better understanding and awareness of governmental buyers' enforcement-decisions of contractual penalty clauses ex post.

Keywords: Public procurement, contract design, penalty clause, , military, decision making, Agency theory.

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## **1.INTRODUCTION**

Economics is based on incentives, and it derives its strength from being able to predict how people change their behaviour in response to changes in incentives (Fehr & Falk, 2002). The focus of attention in this study is the relation between a governmental buyer's use of penalties as incentives mechanism and the sellers' response in behaviour.

Since the founding father of modern economics Adam Smith (1904) in 1776 introduced the principle "division of labour" organizations have become more and more specialized. In line with increased globalization and rapid change in technology, organizations focus on what their core activities are, or should be, and business methods like outsourcing, performance based logistics, third, fourth and even fifth part logistics has been introduced into the business manager's vocabulary. Organizations of today are increasingly dependent on others both nationally and internationally, and different countries pass laws and enter into treaties how to protect and regulate these relationships. Within this atmosphere parties often formalize their obligations towards each other in a contract.

The promise of payment from the buyer when the supplier has delivered agreed goods gives the supplier an incentive to deliver in order to harvest the profit. However, timely supply of materials and inputs are essential for organizations and this positive incentive is not always sufficient incentive for a supplier to deliver within agreed time. If the supplier has alternatives that outperform the lost interest rate, he might breach the contract and prioritize to sell to someone else for a higher profit. In order to mitigate this problem, contracting parties may stipulate in advance the amount for compensation when there is a breach of contract (Hagstrøm, 2003). This is called a penalty clause. These clauses can have multiple purposes, where one of them is to give incentives to deliver an agreed performance or product within an agreed time.

Even so, delay still happens, giving rise to conflicts. So, how will the buyer handle this? Will buyer's enforcement of these clauses change supplier's incentives? If so, will it further change their behaviour regarding fulfilment of their obligations? And how will this damage the buyer? Are there any difference between a commercial buyer seeking to maximize profit for his shareholders and a governmental buyer that might have other goals than maximize profit? Are there circumstances where a buyer shouldn't enforce the

penalty clause, although it means lost cost reduction, and he is within the law, and what initially was agreed upon by both parties when signing a contract? Can existing theory help us answer these questions? Handling contracts in connection with buying and selling are critical regarding success in organizations (Rognes, 1999), and these questions are not easy to answer, although they are not unusual thoughts for many buyers.

The Norwegian Armed Forces has long traditions in embedding penalty clauses in their contracts, thus competent decision makers in the Armed Forces are a necessity in order to make the necessary considerations when dealing with these issues.

In June 2005 the Office of the Auditor General of Norway submitted to the Storting an examination report of 19 defence equipment procurement projects in the Norwegian Armed Forces. The findings showed that seven of these projects were four years behind schedule. Eight of the projects had incurred costs which were significantly higher than the originally approved budget. Four projects delivered equipment showing substantial shortcomings. (OAG, PR 13/2005). Five years later (during the finalizing of this study) there is an article in a newspaper under the heading “Quarrel concerning settlement” with a picture of one of the frigates from the Armed Forces biggest single procurement project ever, consisting of five frigates budgeted to 18.3 billion NOK. There have been delays in all deliveries, and the last frigate was delivered in January 2011, more than a year delayed. The Armed Forces has postponed the decision to enforce penalties towards the Spanish shipyard Navantia. According to the newspaper the reason for this is that the shipyard blames the Armed Forces for the delays, and has submitted a ten-digit claim towards the Armed Forces. (Bergens Tidende, 23.10. 2010 p. 6.). The cost associated with not effectively resolving or managing conflict in a complex project setting are always detrimental (Sutterfield et al., 2007). When the Office of the Auditor General of Norway criticized the Armed Forces for not enforcing the penalties, the Armed Forces justified their decision by saying “there has been a trade-off to achieve the best possible project implementation within the contract limits” (OAG dok 1 2010-2011 p.144.).

The main objective with this first chapter is to introduce the study and the structure of this thesis. This chapter is further divided into six sections. The first section presents the research problem of this study and why this study has to be conducted. The second section briefly provides the purpose, method of study and the significance of the study. The third

section presents the aims and objectives. The fourth section provides some background in order to better understand the context and significance of the problem addressed in this study. The fifth section provides some limitations, and the last section gives a description of the structure of the whole thesis.

### ***1.1 Research Problem and its relevance***

There is no universal agreement on what constitutes a research worthy problem, but from a scientific perspective, a research problem may be defined as a “general issue, concern, or controversy addressed in research, and must integrate concepts and theoretical perspective of the literature into the problem to be addressed” (Ellis & Levy, 2008). It appears that there is a clear consensus in literature that identification of a problem is a cornerstone for any quality research (ibid.).

The overlying purpose of the people elected parliament in Norway concerning public spending are as follows: “The law with corresponding regulations shall contribute to increased value creation in the Norwegian community by securing the most effective use of resources when conducting public procurement based on businesslike and equal treatment.”(Lov om offentlige anskaffelser (LOA), 2006). The Norwegian Armed Forces has in their general purchasing conditions embedded a penalty clause. When delays occur a governmental buyer such as the Armed Forces are faced with the decision if to enforce it or not. A number of authors and recent experimental studies suggest that sanctions, controls and explicit incentives can crowd out intrinsic motivation and may even be counterproductive (Herold, 2010). There are not always clear answers to when a governmental decision maker not shall enforce the penalty clause, if the level of the authority to not enforce penalties is reasonable, and which qualifications the decision making unit should possess in order to secure the best project completion and support for the materials lifecycle. The decision maker must have a holistic overview regarding stakeholders, supplier’s incentives and behaviour, and applicable rules. Trade-offs must sometimes be made. Van Weele (2005) argues that decision making within governmental bodies is far from transparent, due to the many stakeholders involved, the often conflicting interests among these, and the many political aspects that need to be considered, and this explains why decision making concerning, for instance, buying defence equipment is often troublesome and difficult to manage.

Material acquisitions to the Norwegian Armed Forces are often delayed, and when delays occur, the lack of definite guidelines in combination with penalty clauses in the contract design might impose a decision problem upon a governmental buyer like the Armed Forces wither they shall enforce penalties towards their suppliers or not.

## ***1.2 Purpose, method, and significance of the study***

This study has a two-sided purpose. Firstly, it aims at giving the contractual department in the Norwegian Armed forces a better foundation for decision-making in connection with enforcement of penalties towards their suppliers. Secondary, it attempts to make a small, but original contribution to the accumulated purchasing and contract knowledge by exploring and analyzing the positive and negative aspects of a governmental buyers' enforcement of penalty clauses.

This study employs a single case study approach where it holds the Norwegian Armed Forces and their contractual framework as the collective unit of analysis, and seeks out to explore the phenomenon of delays and use of penalty clauses in a governmental buyers' contract design. It attempts doing so by utilizing a cross-sectional semi structured interview design to access primary data from a sample of contract officers and project managers in the Norwegian Armed Forces, and retrieve secondary data from laws, instructions, propositions and reports. It mainly builds its foundation on theories within purchasing and contract theory, especially agency theory and transaction cost economics.

The growths in the analysis of inter- firm contractual relationship that has occurred in recent years is an indication of the importance economists' associate with the issue of contracting and contract design. (Masten & Saussier, 2002). However, the competence and focus on contracting has traditionally been seen from the supplier side (Rognes, 1999) None has to the author's knowledge written about buyers enforcement decisions of contractual penalty clauses, although these decisions are not rare and often difficult to handle.

What makes research of interest is how it will impact future research and other researchers, not the author (Ellis & Levy, 2008). The value of this research for both scholars and the

Armed Forces is a better understanding and awareness of governmental buyers' enforcement-decisions of contractual penalty clauses ex post.

### **1.3 Aims and objectives**

The principal aim of this thesis is to contribute to a better understanding of the complexity in the decision making when handling penalty clauses in governmental contracts, and this thesis attempts to approach the problem and aim by employing the following main research question (infra p. 15 ):

***How does enforcement of penalty clauses impact supplier's incentives and behavior, and how does this impact the success of the projects in the Norwegian Armed Forces?***

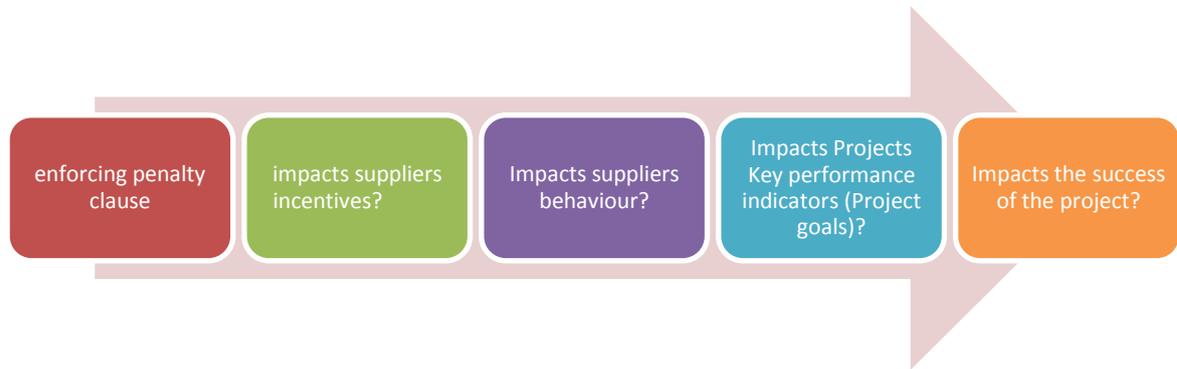


Figure 1. Impact chain

In order to achieve the aim and answer the research question; the following research objectives has been identified:

- RO1 Identify how the Armed Forces measure project success
- RO2 Identify the frequency of delays
- RO3 Identify possible reasons for delays
- RO4 Identify the effects the delays has on the Armed Forces
- RO5 Identify incentive mechanisms used by the Armed Forces
- RO6 Identify which effect embedding penalty clauses in contracts as incitement for reducing risk of delays has on supplier behaviour
- RO7 Identify how enforcement of these penalty clauses impacts the delays

- RO8 Identify how not enforcing these penalties might affect the project success
- RO9 Identify special considerations for governmental governance
- RO10 Recommend at which level the decision making authority should be
- RO11 Recommend factors excusing suppliers from being penalized
- RO12 Recommend which competence which is needed at the decision making unit

## 1.4 Background

The existence for the Norwegian Armed Forces is production and use of military capacities. This is carried out through their three business areas (Håndbok i stabstjeneste for Forsvaret, 2010) See figure 2.

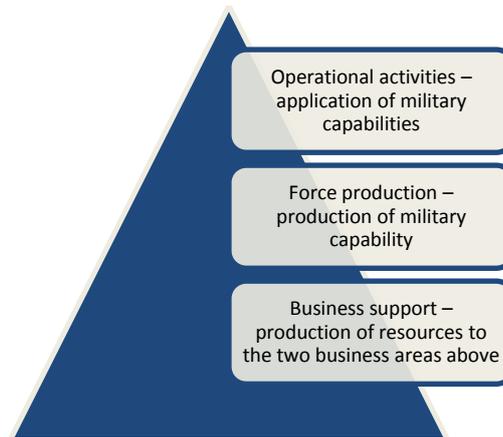


Figure 2. Norwegian Armed Forces business areas

In order to carry out the operational activities and force production the Armed Forces are dependent on personnel, information/communication technology, property/construction, and material (ibid.).

Threats, changes in the global political landscape, terrorism and piracy create an evolving need for new materiel investments. Bureaucracy regarding prioritizing need/projects, planning, funding, and regulation means that time already may be critical when the business support group enter into contracts with suppliers. Most countries still seem to struggle on how to control and monitor governmental purchasing expenditure effectively (Van Weele, 2005).

High degree of materiel deficiencies caused by delayed investments projects is currently a major problem within the Norwegian Armed Forces. The Office of the Auditor General of Norway, responsible for ensuring that the Norwegian community's resources and assets are used and administered in keeping with the Storting's decisions has the last decade repeatedly criticized Ministry of Defence (MoD) for the long delays on new defence materiel. They're claiming that it hampers the Armed Forces restructuring of the defence sector, and severely affects the Armed Forces operational capability. The Auditor General stated in their latest report delivered to the Norwegian parliament in January 2009 the following:

*“The Norwegian Armed Forces' overall operational capability has been reduced during the period 2005 to 2008. The defence sector has not implemented the adopted structure during the period because of material deficiencies relating to materiel, personnel and exercises”*(OAG PR 1/2009).

In 2008 the Auditor General stated:

*“The Norwegian Armed Forces have inadequate access to materiel and staff for operations abroad....This is a serious situation, and there are grounds to question whether the Armed Force's capacity to conduct international assignments is in line with the intentions of the Storting,”*(OAG PR 2/2008)

#### **1.4.1 Clarification of differences between liquidated damages, underliquidated damages and penalties**

These terms are often used interchangeable in different academic literature. Norwegian law speak of “konvensjonalbot” which in its simplest way can be translated as an “agreed penalty”. Sometimes parties to a contract ex ante agree upon how much compensation will have to be paid should one of them breach the contract. These stipulated damages are called liquidated damages when they are ex ante reasonable estimations of true losses. They are called underliquidated damages when they are undercompensatory and penalty clauses when they are deliberately overcompensatory in order to create an additional sanction (De Geest, 1999).

Choosing not to enforce an agreed penalty, comes close to what is called an annulable penalty within the academic theory of law (De Geest et al. 2009). An annulable penalty is a sanction  $s$  that is applied unless monitoring takes place—which occurs with probability  $p$ —and the agent is found non-shirking. Under annulable penalties, the agent's expected sanction is  $s$  in case of shirking and  $(1-p)s$  in case of non-shirking (ibid.).

#### **1.4.2 Remedy to reduce risk of delay**

One remedy intended to mitigate the risk of these delays is to use incentive mechanisms in the contract design, such as a penalty clause. As a consequence of these delays, and the contract design, project managers and contract officers in the Armed Forces faces the decision problem wither the penalty clause should be enforced or not, or to which extent it should be enforced. Since every project is unique it is difficult to give a concrete solution to this problem. These costs are difficult to measure and therefore pre determined liquidated damages are often preferred instead of reimbursements of actual costs. Thus it is common to include clauses for liquidated damages in these purchasing contracts. This has a two sided purpose. Firstly it will give the supplier an incentive to fulfil his part of the agreement on time, and partly give compensation for the loss inflicted upon the Armed Forces. The rationale behind using penalty clauses is to give suppliers incentive to perform on time, and prevent what is called shirking within agency theory. This can e.g. be prioritizing efforts towards other customers, reduce labour efforts etc.

#### **1.4.3 Today's practice regarding enforcement of penalty in the Armed Forces**

In practice suppliers must accept penalty clauses in the contract in order to enter into a relationship with the armed forces. Enforcement of penalties happens in principle automatically by delay (ARF). As a rule of thumb the Armed Forces will deduct the penalty amount (according to length of delay and clauses in the contract) from the received invoice. It is the suppliers' obligation to plead not to enforce or reduce the amount, and provide the information necessary. Next step is discussion between project manager and the projects contract officer how to handle the matter. The result often ends out in a negotiation with the supplier, trying to achieve an attainable result for both parties. It is the researcher's belief that the level of good result achieved is highly dependent on the experience of the negotiator.

There has been an increasing use (in Norway) of extensive and complex contract terms (Lilleholt, 2009). The Armed Forces has established “General Purchase Conditions (GPC)” that often is used as an appendix to simpler contracts. For larger and more complex contracts the purchase conditions often are a matter of negotiation. However, the established purchase conditions are a starting place when the Armed Forces make their negotiation strategy.

The GPC states that the Armed forces can demand penalties from the Contractor when delays occur, regardless of whether the Armed Forces actually have incurred additional costs as a result of the delay. The penalty is a daily fine calculated per delayed working day and shall amount to 1 per mille of the price of that part of the delivery that has been delayed, and if applicable, of the price of those parts of the delivery that cannot be put to use as intended due to the delay. The penalty is normally limited to 10 percent of the parts price.

In addition the GPC states that the Armed Forces are entitled to compensation for direct losses incurred as a result of the delay. If the delay is caused by the Contractor’s negligence, the Armed Forces are also entitled to compensation for indirect losses as a result of the delay.

The internal instruction for the Defence sector, not legal binding “Anskaffelsesregelverk for Forsvarssektoren” (ARF) provides guidelines for the use of liquidated damages. It states that enforcement of liquidated damages in principle follows automatic when delays occur. ARF opens up for the possibility that the Armed Forces can with exception choose not to enforce the penalties. For amount above 250.000 NOK the decision lies with the Department of Defence.

## **1.5 Limitations**

There are many different ways to reduce the risk of delays, and often in combination. The thesis only looks at the penalty clause, and is based on experiences from the Armed Forces as a customer. Experiences from the supplier side are not treated in this thesis.

Not seldom Norwegian newspapers claims that the Armed Forces' material investments are delayed according to plan. This doesn't necessary mean that they are delayed according to contract. In this thesis delays are defined as according to agreed upon in a contract.

Most of the literature concerning penalty clauses in buyer-supplier relationship stems from the academic community within law. While the focus for this thesis is wether to enforce the penalty clause or not with the buyer as decision maker, the focus in this community is seen from a court's point of view and addresses questions like when stipulated damages can and cannot be enforced by a judge. Court enforcement has several possible sources of imperfection (Legros & Newman, 2002). The author sees a court's decision merely as a risk, and a reason that might prevent enforcement.

## ***1.6 Thesis structure***

This thesis is divided into six chapters. The first chapter gave introduced the study and presented a description of the research problem and aims and objectives, and further provided necessary background information in order to understand the context and significance of the question addressed.

Chapter two provides the necessary theoretical foundation of which this research is built upon. Chapter three provides information about the unit of analysis: the Armed Forces and its contractual framework. Chapter four presents the methodology employed in this study. Chapter five presents the findings from the interviews and discusses the findings. Chapter six concludes and presents an answer to the main research question treated, along with limitations, challenges and recommendations for further studies.

## **2. THEORETICAL FOUNDATION**

The main objectives with this chapter is to present the most relevant and significant theories and literature related to enforcement of penalty clauses in buyer-supplier relationships, and provide a context for understanding why this study was conducted. It further attempts to show the relationship with the proposed study and previous work related to the topic, categorize the problem and legitimate that this study is relevant and necessary to be conducted in order to move knowledge a little bit further within the accumulated body of knowledge in purchasing and economic contract theory.

The chapter is divided into three sections. The first section starts of defining when there is a delay. Section two categorises the problem within the scientific literature. The third section builds a conceptual framework towards the main research question for this study, based on previous empirical studies and relevant theory.

### ***2.1 Defining when there is a delay***

The fundamental variables that at least must be present in order to be talking about a decision problem is the presence of a binding contract containing a penalty clause and an actual delay. There are many definitions for delay. In any analysis of delays to a Project, the primary focus is on delays that affect the progress of the entire Project (the Project end date or milestone date) or that are critical to Project completion (Trauner et al., 2009). Shortages of rigs and personnel have encouraged creativity in designing incentive contract in the drilling sector (Osmundsen et al., 2010) therefore the petroleum industry's interpretation of delay can also be of interest. This industry is very vulnerable to delays and has developed standard terms for fabrication of larger components to the petroleum industry in Norway. In their standard terms NF 05 and NTK 05 they have a very precise and accurate definition suited for contractual relationships; there is a delay at the moment when the work in the agreed schedule is not contractual fulfilled at the time for a penalty sanctioned milestone (Kaasen, 2006).

In the Armed Forces established general purchase conditions (GPC) delays are defined as “when the Contractor fails to comply with his obligations in accordance with the Agreement at the agreed date and this (delay) is not attributed to factors subject to the

Armed Forces' control, or risks that the Armed Forces have accepted, including Force Majeure (GPC).

Within construction theory Trauner et al. (2009) proclaims that there are four basic ways to categorize delays;

- Critical or non critical
- Excusable or nonexcusable
- Compensable or noncompensable
- Concurrent or nonconcurrent

From the Armed Forces general purchase conditions it is clear that the Armed Forces reckons an excusable delay for a supplier to be a delay attributed to factors subject the Armed Forces control, or attributed to risk the Armed Forces have accepted, including Force majeure. This is the Armed Forces leeway to not enforce legally committed penalty clauses.

## ***2.2 Categorizing the proposed study***

The knowledge base in disciplines such as social sciences and humanities moves very quickly as researchers develop new theories or confirm or repudiate existing theories (Bui, 2009). Prior empirical applications of contracting have focused mainly on the make-or-buy decision (vertical integration) or long term contracts for tangible products (Ciccotello & Hornyak, 1999). Little has been written about the problem of non-enforcement of penalty clauses from a buyer's perspective, and is not easy to categorize the study within the common scientific literature. The problem occurs as a consequence from delays to the left (upstream) for the focal firm in a traditional supply chain model, placing the problem under the purchasing-umbrella. Compared with other business disciplines relatively little academic research has been undertaken in the area of purchasing, explaining why there is quite a gap in the development of a solid body of knowledge compared with other disciplines in business administration (Van Weele, 2005). Purchase theory is broad and comprises knowledge about markets, products, different kinds of buying behaviour, performance measurement, risk management, bargaining power, negotiating techniques, different cost approaches and communication techniques, among others. Mastering this theory and the practical implications enables a buyer such as the Armed Forces to decide appropriate purchasing strategies, both on an overall level and differentiated from case to

case. Strategic purchasing is about managing supplier relationships in such a way that suppliers actively support the company's overall business strategy and value proposition (Van Weele, 2005) Hence, ensuring that suppliers have the appropriate incentives is essential within strategic purchasing.

Normally a serious supplier would have the sufficient incentives to deliver the right quality to maintain his reputation in the market, and payment upon delivery gives incentives to deliver within reasonable time, However when time is a critical success-factor it may be suitable to incorporate reward or penalty clauses into the agreement. How to design institutions that provide good incentives for economic agents has become a central question of economics (Laffont & Martimort, 2002).

There are no waterproof bulkheads between the different sciences, and the same problem can be researched within different sciences and draws on each other. If one should try to trace this thesis in a database from start to end, it could be labelled that it's within the social science genre → economic and logistics → purchasing (and supply management) → strategic purchasing → contract theory → incentive theory. Other labels could also be right, for instance has the study also strong bound within law, organizational behaviour and human decision processes, construction management and the project management field regarding time planning and dealing with uncertainty, among others.

Prior work that comes closest to this thesis problem is a quantitative report "Development of a decision model for selection of appropriate timely delivery techniques for highway projects" (Sillars et al., 2009) that reviews Multi Criteria Decision models in order to propose a model that considers various project conditions in determining which delivery method would be most likely to encourage timely delivery under the project's unique characteristics, and develops a new algorithm (ibid.). For the quantitative oriented reader interested in this thesis problem this report could be of interest. However, this research is not built on this report since the researcher has a more qualitative focus, and therefore the study builds on streams of literature from purchasing and economic contract theory.

### ***2.3 Conceptual framework towards the proposed study***

Market and organizational coordination are the two ideal types of coordination device for economic transactions, but in the real world we usually encounter hybrid types of organizations (Douma & Schreuder, 2008), where the contract is a common coordination device.

Contracts provide an evolving governance structure for relationships (Seshadri & Mishra, 2004). The term contract has been used indifferently to refer to different things, but in its simplest form a law dictionary defines it to be an agreement between two or more parties creating obligations that are enforceable or otherwise recognizable at law (Garner 1999). However, since economics is based on incentives and derives its strength from being able to predict how people change their behaviour in response to changes in incentives (Fehr & Falk 2002), it is the economist view that is interesting in this study. To an economist, a contract is an agreement under which two parties make reciprocal commitments in terms of their behaviour – a bilateral coordination arrangement (Brousseau & Glachant, 2002).

But there is a catch. It's presumed that Nobel Prize winner in physics, Albert Einstein once have said "Nothing is more destructive of respect for the government and the law of the land than passing laws which cannot be enforced," and sometimes legal systems prevent contracts from being enforced. In contract law there is a central fundamental principle: the *pacta sunt servanda* principle (Latin, meaning agreements must be kept) that expresses that agreements and stipulations, especially those contained in treaties (international laws) must be observed (Garner, 1999). In its most common sense, the principle refers to private contracts, stressing that contained clauses are law between the parties, and implies that non-fulfillment of respective obligations is a breach of the pact (Wikipedia). It is arguably the oldest principle of international law and no international agreement would be binding or enforceable without such a rule (Encyclopedia Britannica).

However, laws in most nations are built on common law system or a civil law system, which has emerged from different ideological and political backgrounds (Lee, 2003) and there is a difference how these systems approach the legality in claiming penalties. The problem of penalty clauses is one of the very few in contract law and economic where there is considerable disagreement among economists, but also among legal scholars (Hatzis, 2003).

Contracting parties may stipulate in advance the amount for compensation when there is a breach of contract (Hagstrøm, 2003). This is called a penalty clause and can be defined as an accessory agreement permitting the contracting parties to establish in advance the damages to which a creditor will be entitled in case of non-performance, delay in performance, or improper performance by the debtor of its contractual obligations (Purcaru, 2009). These clauses can have multiple objectives, where providing incentives for the supplier to deliver on-time are one of them. Frequent occurrences are agreements of penalty incurred by delays (Hagstrøm, 2003)

Most often the Armed Forces have higher bargaining power than their suppliers and therefore it is embedded in the contract that the purchasing agreement is governed by Norwegian law. “In the event of disputes concerning the Agreement, attempts shall be made to settle the dispute through negotiations. If negotiations fail to succeed, the dispute shall be settled in ordinary court of law, using Oslo tingrett as legal venue” (GPC § 15) The Norwegian legal system is a mixture of customary law, civil law system, and common law traditions (Wikipedia), and thereby prevailing courts understanding that a contract between two business professionals are laws between them stands strongly in the Armed Forces procurement contracts.

Due to the importance of external suppliers for most companies, procurement and governance management is of utmost relevance for achieving competitive advantage (Eriksson, 2006). Investments in new defence materiel for the Armed Forces are most often organized as projects. In commercial businesses project delays and cost overruns are becoming major problems in many projects (Bubshait, 2003), and this is also the issue in the Armed Forces projects (OAD PR 13/2005). When a project is delayed the Armed Forces, the supplier or both may incur added costs, and as previous mentioned contracts provide an evolving governance structure for relationships (Seshadri & Mishra, 2004), and often contains penalty clauses to give incentives to the contractor to fulfil his obligations within agreed time. A prior survey containing a sample of 55 project managers in the Norwegian Armed Forces found that materiel investments contracts in the Armed Forces had surprisingly high degree of specification, meaning that they was very detailed and carefully adapted to regulations and the investment they were intending (Bjone, 2008). Hence, one could in theory argue that contracts in the Armed Forces are complete and robust. However, real life contracts are almost always “incomplete” in the sense that there

are inevitably some circumstances or contingencies that are left out of the contract, because they were either unforeseen or simply too complex and/or expensive to enumerate in detail (Hensher & Stanley, 2008). A large and growing literature has analyzed the inefficiencies that arise in a world in which contracts are incomplete (Anderlini & Felli, 2004).

In Adam Smith's famous economic contribution "Wealth of nations" from 1776, he stated that "What are the common wages of labour depends everywhere upon the contract usually made between those two parties, whose interests are not the same. The workman desires to get as much, the master to give as little as possible" (Smith, 1904). We see from this there is a conflict of interests, and Smith further argues that contracting parties will behave with self interest. The two basic ingredients of incentive theory are conflicting objectives and decentralized information (Laffont & Martimort, 2002). This creates uncertainty towards the behaviour of the other part.

Uncertainty is inevitable and present in all business relationships, and therefore the specific type of contract attempts to regulate the risk each of the parties' faces, and each party's obligations attached. Agency theory is directed at the ubiquitous agency relationships in which one party (the principal) delegates work to another (the agent) who performs that work (Eisenhardt, 1989). If we see the workman as the supplier/agent and the master as the buyer (Armed Forces)/principal, agency theory proclaims that the higher the level of risk borne by the agent the more incentive the agent has to do a good job (Douma & Schreuder, 2008). Hence a fundamental question to ask is if the agent's incentive for doing a good job at some point changes into opportunistic behavior – trying to exploit a situation to your own advantage (Douma & Schreuder 2008), due to e.g. risk for bankruptcy or dissatisfaction towards the principal, and if so, can enforcement of penalties beyond actual damage be counterproductive?

There are numerous reasons to expect that penalizing a supplier might induce a supplier to display opportunistic behaviour. A large number of experimental and field studies indicate that economic decisions are in many cases motivated not only by material self interest, but also by concerns for fairness (Stanca et al., 2009). Seeing this in light of Seabright's (2004) credible theory that natural selection has favoured the evolution of a balance between capacity for rational calculation of the cost and benefits of cooperation, and a tendency to

repay kindness with kindness and betrayal with revenge (which in literature are called reciprocity) and Transaction cost economics' developed in organizational theory by Williamson that assumes humans to be bounded rational – human decision makers may try to maximize but their capacity to formulate and solve complex problems are limited (Williamson, 2010). Human actors are neither hyper rational nor irrational but are attempting effectively to cope with complex contracts that are incomplete (ibid.). Also, trust is of crucial importance for the functioning of many economic and noneconomic relationships (Herold, 2001), It is therefore naturally at some point that a suppliers human behavioural attributes in conjunction with environmental factors will pose a risk for opportunistic behaviour towards the Armed Forces regardless of the initial incentive motive with the penalty clause, and that principles from agency theory and transaction cost economics can help to address this problem. Whereas the primary motives for contracting in the agency literature are risk transfer (insurance) and incentive alignment, transaction cost economists tend to view contracts more as devices for structuring ex post adjustments and for constraining wasteful (rent-dissipating efforts to influence the distribution of gains from trade, including especially, ex post bargaining and “hold up” activities in transactions supported by relationship-specific investments (Masten & Saussier, 2002). This legitimates that the following main research question is necessary to conduct in order to move the accumulated body of knowledge within purchasing and economic contract theory I little bit further.

***How does enforcement of penalty clauses impact supplier's incentives and behavior, and how does this impact the success of the projects  
In the Norwegian Armed Forces?***

### **3. THE UNIT OF ANALYSIS AND ITS ENVIRONMENT**

This study holds the Norwegian Armed Forces and their contractual framework as the collective unit of analysis. In order to investigate the problem it is of essence to understand the objective of the Armed forces, the market they operate in and the external and internal boundaries and leeway when dealing with enforcement of penalties.

The main objective with this chapter is therefore to provide necessary information about the market the Armed Forces operate within, and the rules and regulations the armed Forces must stay within.

This chapter contains four sections. The first section describes the objective of the Armed Forces. The second section provides information about trends and characteristics and some numbers on expected future investments for the Armed Forces. The third describes laws and regulation, while the fourth section describes self-imposed rules.

#### ***3.4 The objective of the decision maker and responsibilities***

The Norwegian Armed Forces are one of the most fundamental instruments for the Norwegian State to contribute to the basic and timeless responsibility to create security for the State the population and society, and protect and promote its interests and values. The Armed Forces receive their funding through the National budget and are dependent on support among the Norwegian people.

The overall responsibility for planning the material investments for the Armed Forces lies within The Norwegian Ministry of Defence (MoD), whereas the Norwegian Defence Logistic Organisation (NDLO) as the business support branch in the Armed Forces puts the plans into practice. When the Armed Forces plan for larger investments in defence materiel they normally organize this as projects. According to the Armed Forces Investment database "FID" there are 269 investments projects running primo 2010. In addition there is always many pre planned projects queued to be approved. Norwegian Armed Forces material projects are categorized into two main categories. Projects stipulated to cost more than 500 billion NOK (category 1) must be presented and approved by the Storting, while other projects (category 2) can be approved by the Ministry of Defence.

Sutterfield et al (2007) mentions in a case study from a US defence project that defence projects in USA has been aptly described as one of the world's most complicated processes, and further argues that this stems from the fact that various stakeholders from above and below are likely to besiege the project manager.

### ***3.3 Trends and characteristics on the supplier side and future investments***

The market for military defense equipment consists of the defense industry on the supplier side, and mostly governments on the buyer side.

The defence industry is a large industry. According to Stockholm International Peace Research Institute (SIPRI, 2009) global military expenditure in 2008 was estimated to \$1464 billion. This represented an increase of 4 per cent in real terms compared to 2007, and of 45 per cent since 1999 (ibid.). Military expenditure comprised approximately 2.4 per cent of global gross domestic product (GDP) in 2008 (ibid.). The market for military defence equipment is a special market. It is characterized by high degree of public interest, innovation, secrecy, highly technological, and much resource are put into research and development. There is consensus in literature, that military demand in conjunction with military research and development programmes was the key to the development and diffusion of many technologies especially in the US, like internet, ICT-technologies, GPS and other satellite technologies ( Edler & Gerghiou, 2007). In addition to the role as a buyer, governments plays a central role in this market as they often tend to favour and subsidize own national defence industry, limiting other producers market assets. Since its buyers are characterized by being a country, bilateral agreements like repurchase and multilateral agreements like joint development are not unusual. For example is the development and procurement of Norways new US made F-35 fighter aircrafts a cooperation between nine NATO-countries. The market is highly regulated both on a national and international level. In accordance with the technological development introducing such as network-based defence, the prices for defence equipment increases. For example, has study after study showed that the price of combat aircraft and warships has been rising substantially faster than inflation, often faster than GDP (in UK) (The Economist, 2010).

The Norwegian Armed Forces procure from this market in order to carry out their wide range of tasks, both during peace, crises, armed conflicts and war. Materiel management is an important part of the Armed Forces activities. Approximately 60 percent of the Norwegian defence budget is used to procure and maintain materiel. In 2008 The Armed Forces purchasing expenditure peaked comprising 24.8 million nkr (Statistisk Sentralbyrå). This is an increase of 32,3 percent in real terms compared to 2005.

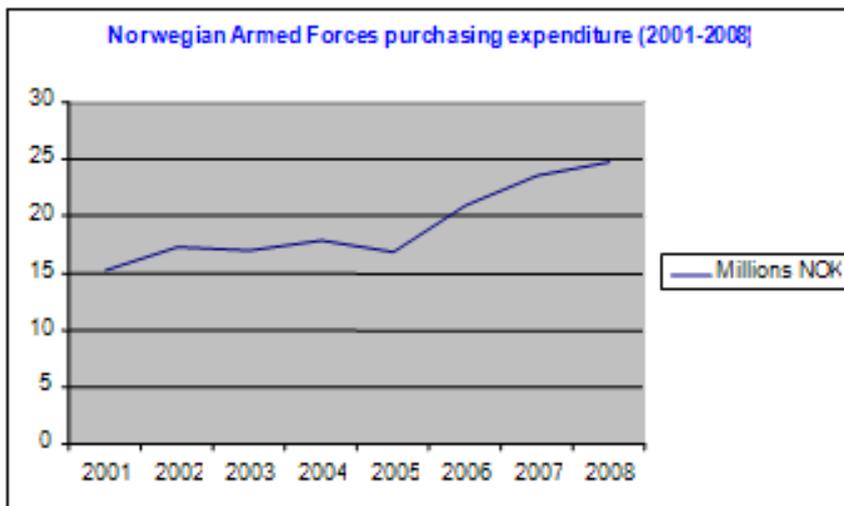


Figure 3. Norwegian Armed Forces purchasing expenditure 2001-2008 (retrieved from SSB.no)

In the period 2010-2013 Norway are planning to spend 39.4 billion NOK on material investments for the Armed Forces (MoD – Fremtidige innkjøp til Forsvaret, 2010). This number is increased to 44.3 billion NOK for the period 2014-2017 (ibid.).

*"The increase in the defense budget affirms this government's intention to build a strong military capability as part of our long-term national defense strategy up to 2012," said Defense Minister Anne-Grete Strøm-Erichsen (Defencenews, 2008).*

A trend within the military industry is rapid development in technology, and material bought to the armed forces is often characterized by high degree of complexity and asset specificity. Terrorism, proliferation, and conflict will remain key concerns even as resource issues move up on the international agenda, and terrorism is unlikely to disappear by 2025 (National Intelligence council, 2008).

Norway is alongside NATO increasingly operating outside Norway like e.g. Afghanistan, Aden bay, Gibraltar and Libya. This change of focus sets higher requirements on the purchasing function within the Armed Forces to deliver the right quality to the right time.

### **3.1 Regulation context**

The Norwegian people has by referendum opposed themselves from membership in the European Union (EU), but is a member of the European Free Trade Organization (EFTA) and has approached regulations within EU by joining the European Economic Area (EEA) followed by an agreement that regulates trade and other economic issues between EFTA and EU (Wikipedia, the free online encyclopaedia). Specifically, it allows Norway to participate in the EU's single market without a conventional EU membership. In exchange, Norway is obliged to adopt all EU legislation related to the single market (except those pieces of legislation that relate to agriculture and fisheries). (Wikipedia) This led to the preparation and decision to implement EU's legislation into Norwegian law in 1992. The result was the public procurement act "Lov om offentlige anskaffelser (LOA)" with associated regulations "Forskrift om offentlige anskaffelser (FOA)". Procurement is one part of many processes in a business, and LOA/FOA presents the clearest guidelines on how public agencies like the armed forces shall conduct their procurement (St. mld. 36)

"The law with corresponding regulations shall contribute to increased value creation in the Norwegian community by securing the most effective use of resources when conducting public procurement based on businesslike and equal treatment."(LOA)

The Armed Forces are obliged to follow this law and regulation. Unlike civil businesses this means that they are obliged to follow more rigid procedures, secure high ethical standard in the purchasing process and neither discriminates possible suppliers based on nationality nor treat possible suppliers differently in any other way. This means that the Armed Forces must act in a manner that is predictable, and reasoning for decision making in the purchasing process must be well documented so it is possible to test the process afterwards. A fundamental requirement in the law is that all purchases shall be based on competition when possible.

A basic requirement for the law to be applicable is that there exists a contract (veileder til reglene om offentlige anskaffelser, 2006). A contract is defined in FOA as a written mutual binding between one or more operators with two or more suppliers.

### **3.2 Internal framework**

The Armed Forces categorizes their formal documents into three categories.

Legally binding documents, direction-giving documents, informative documents (Forsvarets stabsskole, 2010).

Ministry of Defence has in addition made an internal instruction book for how the Defence sector shall organize and execute its procurement activities, “Anskaffelsesregelverk for Forsvarssektoren” (ARF 2008).

NDLO also has internal guidelines to support LOA/FOA and ARF. Provisions in ARF impose the Armed Forces to include instruments in the contract to secure the Armed Forces losses if delivery is delayed.

Prinsix is a project model and framework available online, that is developed to standardize how the Armed Forces shall plan and execute their materiel investments. The project model builds on a generic schedule for planning and implementation. In Prinsix there are established 16 areas of knowledge to provide the necessary theoretical knowledge and guidance to personnel involved in the purchasing process. Time management is the one area showing the processes intended to secure delivery on time, while purchasing management is the area showing the main processes needed to procure materiel and services from suppliers outside the Armed Forces. However, Prinsix says nothing about incentives and how to handle penalties, but stresses the importance of high ethical standards in the Armed forces procurement activities.

*“Armed Forces shall act in accordance with good business practices and ensure a high level of business ethics in its proceedings in all phases of the procurement process. The most important rules that relate to the ethical standards exist in public law (Offentlighetsloven), Public Administration law (Forvaltningsloven), Civil Service Act (Tjenestemannsloven), the Securities Trading Act (Lov om verdipapirhandel), Security law (sikkerhetsloven), law on public procurement (LOA) and procurement regulations for the Armed Forces (ARF).” (Prinsix.no).*

## **4. METHODOLOGY**

Keeping in mind the main research question: How does enforcement of penalty clauses impact supplier's incentives and behavior, and how does this impact the success of the projects in the Norwegian Armed Forces? This study holds the Norwegian Armed Forces and their contractual framework as the unit of analysis and utilized a cross-sectional pre structured interview design to access primary data from a sample of contract officers and project managers in the Norwegian Armed Forces. Secondary data consist of laws, instructions and reports gathered from scientific databases, internet, library books and sites. The Armed Forces general purchasing conditions was retrieved from the contract department at Haakonsvern Naval base in Bergen.

This chapter explains the procedural framework which the study is conducted within, in order to address the research objectives. It is organized into seven sections starting with an explanation and justification of the research design, before elaborating the choice of subjects and procedures employed to collect primary data.

### ***4.1 Introduction and philosophical orientation***

There is often considerable variation in expectations across disciplines, fields of study, (and indeed supervisors), in terms of what a thesis or dissertation should look like (Paltridge, 2002).

The research for this study started late 2009 with discussions over telephone with the head of contracting for the Armed Forces located at Oslo, and a personal meeting with the head of contracting in Bergen. Conducting a literature search in academic databases like Bibsys, ProQuest, Science Direct and ISI web of knowledge showed that little had been written about the problem of interest. A lot had been written within the science of law, while the result within purchasing and contract theory was rather scarce. As stated in the theoretical framework section this study falls under the social science domain. Social science is defined as any discipline or branch of science that deals with the sociocultural aspects of human behaviour like e.g. economics (Britannica online encyclopaedia), and as stated in the literature review is the umbrella where the problem treated in this research falls under. Although the majority of empirical research done in logistics, operations and material management focuses on quantitative research methods (Elram, 1996), positivism in the social sciences is not regarded as an approach that will lead to interesting or profound

insights into complex problems, especially in the field of business and management studies (Remenyi et al., 2005). The researcher finds the problem regarding enforcement of penalties from a buyer's perspective complex and comprehensive, and little scientific research has been conducted on the problem. Hence the philosophical orientation chosen for the research in this thesis is a phenomenological approach. Some argue that it is through phenomenological research that it is possible to cope with the complexities of business and management (Remenyi et al., 2005). In practise this means that the focus for this study is to look beyond the details of the problem addressed in order to understand the reality behind the problem, like the root of the problem, how decisions affect incentives and behaviour, and the environment the Armed Forces live within. Organizations do not operate in a vacuum, but live in an environment that provides the conditions and shapes all organizations by exerting economic, social, political and other pressures (Douma & Schreuder, 2008). This further implies that the approach to phenomenology to a certain degree unfolds as the research proceeds.

#### ***4.2 The case study***

Elram (1996) has showed how the case study method can be used in business research, with a particular focus on purchasing and logistics research. While case studies doesn't suit every situation, that they do have an important role in many areas of logistics and purchasing, like understanding decision-making processes and the impact organizational structures has on the role of logistics (Elram, 1996).

As a research approach the case study is a particular powerful technique in answering who, why and how questions (Remenyu et al., 2005), The case study method allows the researcher to conduct research that is exploratory, explanatory and descriptive, and since one of the purposes for this study was to give the contractual department in the Norwegian Armed forces a better foundation for decision-making for a complex problem, a case study approach where chosen for this research. Since not much theory where to be found about the direct problem, an intensive research design (many variables, few units) were chosen in order to obtain a comprehensive picture about the use of penalty clauses for the collective unit "the Norwegian Armed Forces".

### **4.3 Subjects and sample size**

A phenomenological study usually involves identifying and locating participants who have experienced or are experiencing the phenomenon that is being explored (Rudestam & Newton, 2001).

Personal interviews were chosen to gather primary data, as open individual interviews are very suitable to obtain individuals interpretation of some phenomenon (Jacobsen, 2005). The intention with the choice of respondents for the interviews was to use criterion sampling to select participants who had experience with delays and penalty clauses in contractual relationship where the Armed Forces was one of the parties. In order to answer the research questions the best subjects to investigate probably would have been suppliers that have been late with deliveries towards the Norwegian Armed Forces. However, that would have issued some challenges both regarding availability and time consume in the data gathering, biases in the answers and ethical issues. A former relationship experiencing delays and penalties in combination can often have been characterized by conflicts, negotiations, and sometimes poor climate. It is likely that many suppliers would be reluctant to be interviewed by a student with strong ties to the Armed Forces, and if they allowed to be interviewed it would be plausible to suspect them to be biased, either due to previously bad climate or fear of weaken their opportunities for new contracts. On the other hand, project managers and contract officers in the Armed Forces represent the “owner” of the problem treated in this study, and it is plausible to believe that they have given the problem more thought than the supplier side, and could be a good source for data collection. An intuitive indication of their contribution-worthiness for this study could be the length of their work-experience regarding procurement within the Armed Forces.

The appropriate sample size is difficult to decide. Most phenomenological studies engage a relatively small number of participants (10 might be appropriate) for a relatively long period of time (at least 2 hours) (Rudestam & Newton, 2001).

The sample picked consisted of five contract officers, and four project managers working within naval capacities at Haakonsværn in Bergen. They were all males, and their work experience with investment projects in the Armed Forces varied from 4 years to 35 years, giving an average of 13 years experience. Five of the interviewed had more than 10 years experience. A sample of nine is too little to make any statistical proof representing the view of the whole population of contract officers and project managers. However it is still

enough to provide the author with valuable information in thesis like this where the findings are relevant from the perspective of the user of the findings.

Non probability sampling was used as technique for data collection. Initially a sample was picked based on the authors understanding of their knowledge related to the problem in focus (judgement sample), but the respondents also tipped the author about others they knew had experience with delays and conflict in their projects (snowball sample), and a few was picked for their availability regarding time and place (convenience sample).

#### **4.4 Procedures**

Based on the research problem an interview guide was prepared (Appendix 1) Most questions was open-ended, while some was structured more like close ended in order in order to see the likenesses or differences.

The interview guide contained 18 questions divided into six sections

Section 1 - concerning delays

Section 2 – concerning incentive mechanisms and suppliers behavior

Section 3 – concerning project success

Section 4 - concerning governmental management

Section 5 – concerning decision making authority

Section 6 – concerning core question

As a form of pilot testing of the interview guide the most experienced respondent was interviewed first. As a result of this the researcher found it sensible to add a question regarding which competence the respondent finds important that a contract officer possesses.

The researcher is an employee in Norwegian Armed Forces. Hence security clearance was not an issue in order to get access to the respondents. By contacting the Head of Contracting and a Project Manager at the Norwegian Naval Base Haakonvern, the researcher was redirected to the Security Officer at NDLO who issued a time limited access card to the Departments where most of the Project Managers and Contract Officers

are situated. This allowed for free access to the premises enabling the researcher to conduct the interviews.

The interviews were conducted behind closed doors at the respondents' respective offices at Haakonsværn Naval Base in Bergen and varied in time from one hour to three hours dependent on their experience level, interest for the topic and their available time. The skills required for collecting evidence for a case study are much more demanding than for experiments and surveys and include the ability to ask suitable questions, the ability to listen, being adaptive and flexible, having a firm grasp of the subject, being unbiased and not having preconceived notions (Remenyi et al., 2005). The respondents were initially informed about the purpose of the study and that the questions were designed in such a way that the discussion around the topic was more important than the actual answers they gave. This was done in order to grasp the richness and complexity surrounding the problem, as opposed to get responses to a scale of binary choices, restricting their answering options.

The Armed Force's activities and money spending are a popular topic for newspapers to write about. The organization is dependent on support from politicians and the Norwegian tax payers, and wishes to appear professional, with high ethical standards. Hence there are personnel pointed out to answer on behalf of the organization. For the remaining personnel there is a culture within not to share information outside a "need to know basis", and scepticism regarding personal quotes. Thus the interviews were conducted without the use of dictaphone to create a more relaxed atmosphere, allowing the interview objects to speak more freely. The respondents were informed in advance that the researcher basically did not intend to quote them in the thesis. If so was the case, they would be given the possibility to read the draft and decide if they approve or not.

#### **4.5 Data analysis**

Conducting open interviews makes it difficult for a researcher to present clear results that constitute new knowledge. Within scientific writing communities there more or less exist accepted norms and guidelines for how to display data and summarize the results of statistical analyses when it comes to quantitative studies. For qualitative studies there are no such universally valid guidelines. Since qualitative studies produces data that represent

word and ideas rather than number and statistics. The collected data was transcribed in Ms Word and then categorized into twelve parts, and systemized in a way that all answers regarding each question was chronologic following under each question starting with the contract officers first, followed by the project managers. Differences and similarities was sought sorted out, and are presented in the next chapter.

No explicit quotations were retrieved, in accordance with the promises to the respondents, as outlined earlier in this chapter.

#### **4.6 *Validity and reliability***

The choice of research design will have major implications for the study's validity and reliability (Jacobsen 2005). Research can be described and evaluated in terms of three types of validity: construct validity, internal validity and external validity, where each gives us a different perspective on any particular research investigation (Cozby, 1997).

This study has low internal validity since the methodology employed in the study complicates to make strong inferences that one variable causes another variable. It is in the researcher's view that the study can be generalized to other governmental populations and settings, and so has external validity. The construct validity could be enhanced by letting the study be reviewed by peers or authorities within the procurement environment in the Armed Forces. Some phenomenologists will argue that all situations and organisations are different and thus the same result cannot ever be obtained, and consequently reliability per se is not a central issue (Remenyi et al., 2005)

#### **4.7 *Limitations and ethical considerations***

There are certain variables that may impact the outcome of the research. It's the problem of bias since they all represent the one part of the contractual relationship. It is a large amount of data and the perception and interpretation of the researcher could influence how they are presented in this thesis. Some of the questions were a bit "leading" questions. The respondents had little time to make a stance, and so the answers could be different if they were answered on e.g. mail and thus had better time to think it through.

The intention was that this study as far as possible should be open to public. It is plausible to expect that the researcher's background and employment status within the Armed

Forces might have affected the respondents “openness” towards the interviewer, and that a journalist would receive different answers. Thus there lies a responsibility in protecting the individual employer in the Armed Forces, their counterparts in business relationships and still not reduce the quality of the data collected. It’s a fine balance for the researcher to carefully assess the transcribed data in order to not present thought, fact and ideas that might cause unpleasantness for someone.

Respondents revealed mercantile and safety sensitive details and examples from on-going contractual relationships that might implicate and are therefore omitted from the this thesis, and the findings could therefore sometimes appear vague.

## **5. RESULTS AND DISCUSSION**

Having reviewed both the transcripts and notes; the interviews provided a wealth of information giving insight into today's practice and provided depth in order to better understand the root of the problem making the author more capable to address the research objectives. The respondent expressed wide-ranging views.

This chapter is categorized into twelve sections. Whereas the nine first sections addresses the research objectives which attempted to identify issues, the last three sections seeks to give recommendations to the Armed Forces.

Each section deals with findings from the interviews and attempts to interpret and analyze the findings in order to explain its meaning

### ***5.1 Measuring project success***

Although all the respondents are derived from the same environment; supporting project success for the Armed Forces, there were different opinions regards how project success normally are measured in their projects. The indicators; performance, cost and time was the normality in how project success was measured, and the majority found that performance normally was the most import of them. Regarding cost, some of the respondents thought that there was little focus on this criterion as long as the procurement was within assigned budget. This was justified by little incentive for the project managers to pay lower price than the budget allowed. Projects was measured after how close they came to budget, and not how well they stayed within budget. It was mentioned that this probably also was applicable for the Norwegian public administration in general. This was however different from project to project, as projects on a tight budget would have a focus on costs in order to achieve the performance requirements. Some of the respondents were convinced that in projects with a spacious budget what in the project manager literature is called "gold-plating" could occur, meaning that performance was increased beyond the actual need. As long the price is within the budget for the acquisition, there is little focus on reducing the costs. The respondents defended this with an argument that there are not good personal incentives to reduce costs as long as the project are within requirements for performance, time and budget.

According to ARF there are mainly three factors influencing if a buyer reaches the predetermined goals through the implementation of a contract: delivery at the agreed time, with agreed performance to the agreed price.

Doubts often arise about what and who actually determine project success (Lim & Mohamed, 1999). To which degree a project is successful or not will always depend on who you ask. Project success means different to different stakeholders (Toor & Ogunlana, 2009). A project manager might be most concerned with progress with the project in the form of contractual obligation within his budget, while the end-user might see performance or rapid delivery as project success. Some projects will have tighter budget limits than others and hence a bigger focus on keeping the costs as low as possible.

Westerveld has made a summary of research on project success criteria where researchers has labelled time, cost and quality as immature and short term success.

Result areas 'Project Excellence Model'	Wateridge (1998) [8]	Kerzner (1992) [15]	Lim and Mohammed (1999) [9]	Turner (1997)[4]
Project results Time Costs Quality/Scope	Produced to specification	'Immature': On time Within budget According to specifications	Micro Success (short term): On time Within budget According to specifications	The facility is produced to specification within budget and on time
2. Appreciation client	The project achieves its business purpose and: meets its defined objectives meets quality thresholds is profitable for the owner	'Mature': Minimum of agreed scope changes Without changing the corporate culture Does not disturb the workflow of the client	Macro success (long term): "does the original (business) concept tick?"	The project provides a satisfactory benefit to the owner  The project achieves its stated business purpose The project meets pre-stated objectives to produce the facility
3. Appreciation project personnel	The project team is happy during the project and with the outcome of the project		Micro success (short term): appreciation of the project team	The project satisfies the needs of project team and supporters
4. Appreciation users	Users are happy during the project and with the outcome of the project		Macro success (long term): "does the original (business) concept tick?"	The project satisfies the needs of users
5. Appreciation contracting partners	Profitable for contractors		Micro success (short term): Profitability of the project for contracting partners	
6. Appreciation stakeholders	Stakeholders are happy during the project and with the outcome of the project			The project satisfies the needs of stakeholders

Table 1. Summary of research on project success criteria ( Westerveld, 2003)

Research on project success shows that it is impossible to generate a universal checklist of project success criteria suitable for all projects (Westerveld, 2003)

The Armed Forces must accept that assigned budget must be balanced with other sectors need like e.g. healthcare, public schools and infrastructure. Normally the budgets are tight

in all levels from top (Governments public purse) to bottom (Project managers) in order to prevent agents from “gold-plating”. An agent should only buy what is needed, and if the budget is too large he could be tempted to buy better than needed. A problem is that the opinion of what is needed might differ between the different stakeholders.

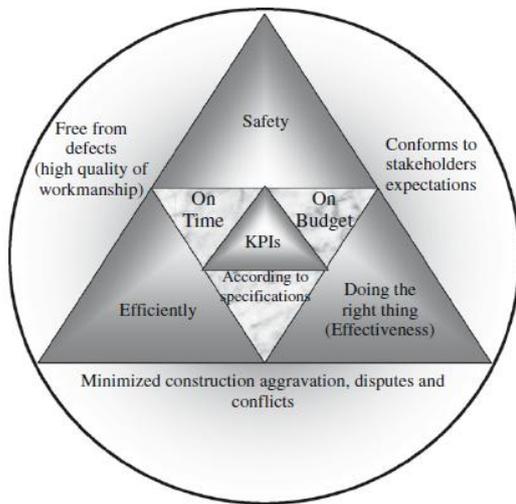


Figure 4. Performance measurement criteria for mega projects (Toor & Ogunlana, 2009)

It is very common for construction projects to suffer from delays and budget overruns due to disputes among the parties (Toor & Ogunlana 2009). Toor and Ogunlana (2009) has carried out an empirical investigation on a mega airport project in Bangkok where the findings showed that construction stakeholders are starting to think beyond the traditional measures of project performance: on time, on budget and according to specification. Their research suggests that Figure 3 should be considered as the new measure of performance, where minimized disputes and conflicts are suggested as one of the key performance indicators. The Armed Forces should revise how they measure project success and thereby influence the project managers’ incentives.

## **5.2 Frequency of delays**

The majority of the interviewees had experienced that delays was more common than on time deliveries. Only two of the interviewees experienced that on time deliveries was more common. There is a distinguishing characteristic of the latter two interviewees’ project experience compared to the others. Their projects are more characterized by many smaller purchases like e.g. smaller quantities of hand weapons. They still pointed out that delays were not unusual. One of them estimated 30% of the deliveries to be delayed.

This confirmed previously reports from the Office Auditor General, that delayed procurement projects is a problem within the Armed Forces. Looking at the two respondents that stood out, it is likely to believe that the characteristics of the products strongly influence the risk for delays. While less complex products and “products of the shelf” are easier for a supplier to estimate delivery time correctly, projects contracting products like e.g. warships that are characterized by higher degree of complexity and innovation, has higher risk for unforeseen problems and hence delays.

### ***5.3 Reasons for delays***

It was consensus among all the interviewees that the two most common reasons for delay are that suppliers underestimate the scope of work and/or experiences problems with deliveries from sub suppliers. Some of the respondents assumed that the underestimation of the scope of work was attributed to complicated, unclear, or deficient specifications, while others claimed that the reason was poor project planning of the supplier. Interestingly some felt that that the personnel working within the project organization in the Armed Forces was overworked or lacked the necessary technical expertise, thus disabling them to be proactive in following up their projects, leaving the supplier “left to themselves”. Other reasons for delay pointed was underestimation of the time consume making the documentation, complicated regulations and requirements to follow technical standards from both NATO (NATOSTANAG) and commercial business, that the suppliers are unfamiliar with. As expected Force majeure incidents like environmental forces (volcano ash prevented from flying and frozen gulfs prevented testing boats) or in some cases denied export licenses from foreign suppliers’ governmental authorities, and changes in scope were mentioned as reasons for delays.

There may be many reasons why projects are delayed, both within the Armed Forces and within the suppliers (intra-firm) and between the Armed Forces and the supplier (inter-firm) as well as external influences such as force majeure. The findings here match with transaction cost economics that assumes that humans are bounded rational, and this poses a problem under uncertainty. Material procured for the armed forces are often characterized by being highly technological with ambiguous product specification, and is often specialized and unique for the tasks the Armed Forces are set out to do. This high degree

of asset specificity can be seen as bilateral since the suppliers would have difficulties selling the products to others, and the Armed Forces will have high exit costs if decided to breach the contract and find a new qualified supplier, so the Armed Forces are in some way often “locked “ to their supplier and vice versa. Another characterization of complex projects like e.g. frigates is that it may take many years from the need is identified to there exist a contract, and then many years again to final delivery. This in combination with the rapid development in new technology and political changes like e.g. chasing pirates outside Somalia indicates many change orders, utterly complicating the procurement process.

#### ***5.4 Delays effect on the unit of analysis***

Some had experienced that in some cases delays had been beneficial for the Armed Forces in cases where the Armed Forces was not ready to receive as a result of lack of facilities or lack of personal to do acceptance tests. On a general basis it was argued that since the Armed Forces is a non-profit organization delays would delay the consumption of the operating budget, thus giving the Armed Forces an interest rate advantage. However, the downside could be reduced combat readiness.

The respondents were not asked about the negative effects, but this is however discussed here. Since the end of the 1980s, the time-to-market of new products has become a competitive advantage, particularly in markets where the first mover has a strong advantage (Mahmoud-Jouni et al., 2004). For many commercial businesses time is thus essential as it inflicts direct costs on them and may lead to loss of market shares and inventories of obsolescence products. Some might argue that this doesn't apply for the Armed Forces since they don't resell final products or put goods into own production for profit. Project procurement is always done for a basic reason (though the reasons can be wrong), to satisfy a need. For the Armed Forces it is to satisfy a need to directly or indirectly maintain or enhance their combat capability. Delays in deliveries may inflict transaction costs on the Norwegian forces. Since the Armed Forces are a non profit organisation these costs are difficult to stipulate. Direct costs can be planned labour like courses, training and inspection that has to be postponed due to the delay. Indirect costs might be administrative costs for the project due to the delay. The most difficult costs to stipulate are the reduced combat capability cause by the delay. There could also be a higher risk of continuing to operate older equipment while waiting for delivery, so

ultimately delays can indirectly cause fatalities. If it doesn't suit the Armed Forces to receive the materiel within agreed time it surely is an upside, not to be neglected, e.g. the Armed Forces doesn't carry the risk for damage of the materiel, nor either does the guarantee period start without the Armed Forces being able to use the contract subject as intended.

### ***5.5 Frequency and variations of incentive mechanism***

All respondents stated that the most common incentive mechanism had been a penalty clause where it is agreed 1 per mille per days of delay, limited to 10 percent of the total contract value, except for one project manager that didn't know, and surprisingly argued that this kind of information only was details for the contract officer's knowledge. Although the above use of penalty clauses was the most common, different anomalies did occur, and some of the respondents were known to contracts with 5 per mille as the maximum daily penalty, and a the limiting total penalty to range from 6 percent to 15 percent. Other instruments used was an exponential daily penalty, starting low and increasing the longer the delay proceeds, and what is called a "grace period" where the supplier is giving a period after the milestone delivery date to deliver without the penalty clause being enforced. If the delivery is accepted after the "grace period" the buyer is entitled to penalty from the grace period in addition to the delay after. The use of positive incentive mechanisms was not known to the respondents, except one respondent that remembered it had been used on a project that was very time urgent in the 1970s.

### ***5.6 Contractual penalty clause as incitement for reducing risk of delays and its effect on supplier behaviour***

A marginal majority of the respondent was of the impression that penalty clause as incitement for reducing risk of delay was a necessity, and that delays could have been longer without such a clause. Some argued that reason for this could be that in some cases the supplier had other contractual obligations of a larger volume like e.g. towards the US Armed Forces, and then wouldn't prioritize the Norwegian Armed Forces if there were no element of penalty. A minority was of the opinion that the supplier would prioritize to deliver as fast as possible since there already was an incentive in receiving payment to make amends towards their sub suppliers, making the clause superfluous. However, the respondents unanimously agreed that the use of positive incentive mechanisms could be useful if time is critical. It could give a signal of an important requirement in the contract,

instead of the “overall whip”. Some also believed it would be highly motivational to have a focus on making more money, than risking losing money if they are delayed.

The opinion regarding the effect penalties in contracts have on suppliers’ behaviour was widespread. Some argued that it did not have any effect since most suppliers was concerned about their reputation, while others claimed that avoiding penalties was more important than reputation, and that suppliers had all focus on delivering a product at the agreed milestone, and that this might give rise to sloppiness regarding quality and documentation. The end result would be poorer and quality issues that could have been prevented are postponed to complaint period. Some pointed out that the Armed Forces are inconsistent in collecting penalties, and that suppliers might behave irrational since they feel the Armed Forces are unreasonable.

There are many drawbacks for a supplier when he is delayed First of all the Armed Forces will withhold payment until delivery are approved, so the supplier loose the interest rate, in other words, the possibility to alternative use of money. In addition the delay forces him to have focus on a project that should have been ended, and the need to put in extra labour in production and/or administration comes with a cost. Future projects might have to be postponed or dealt with at the same time. For future sales the supplier faces the risk of weakening their reputation in the market. This indicates that the minority of the respondent has a point.

### ***5.7 Enforcement of contractual penalty clauses impact on delays***

An overwhelming majority of the respondents had the impression that enforcement of penalty clause could utterly delay the projects, and some had experienced this in practice. Other had experienced that the question of enforcement of penalties arises to late to have an impact on the progress of the project.

This can be due to change in focus from the supplier side, where efforts to argument for reducing the daily fines is given priority rather than focusing on project completion. This can further be attributed to opportunism or feeling of unfairness.

### ***5.8 Non enforcement of penalties effect on project success***

There was a divergent opinion of the effect non-enforcement of penalties had on the degree of project success. While some believed that the decision was taken too late to have

an impact on the project, others pointed that there are so many elements in a contractual relationship, and the parties must live with each other long after delivery, solving quality, maintenance and upgrade issues, indicating that not enforcing the penalties would enhance the relationship.

### ***5.9 Special considerations for governmental governance***

As opposed to commercial business the Armed Forces are subject to more rigid regulations and procedures, and must secure competition and equal behavior to suppliers. Many respondents pointed out that the Armed Forces are less feasible to have favorites among suppliers or establish long term relationships, and the contract is a more important instrument to regulate the relationship than between non-governmental buyers. Although the private sector should also behave ethical some of the respondent found them “tougher” than the Armed Forces, as the Armed Forces attend a higher pressure and interest from media. This employs behavior at the Armed forces that mitigate to appear reprehensible. Some pointed out that the Armed Forces are an operator in the society at many levels, bigger and more powerful as opposed to suppliers that are smaller economical, and this bureaucracy also implies that processes are more time-consuming.

Others argued that the Armed Forces must follow political guidelines, and that this sometimes constrains the authority to do the best investment for the Armed Forces e.g. that new coastguard vessel must be built in Norway, or requirements for a repurchase agreement creates more expensive procurements, than for a commercial buyer. Many mentioned that the Armed Forces had less emphasis on costs than their suppliers. Interesting some thought that the Armed Forces often are dependent on suppliers selling “weird special products”, and sometimes display arrogance and has unrealistic expectations towards their suppliers.

Collection of public revenues is a key prerequisite for developing a welfare society and a user-oriented public sector.. The requirements provided for by law and agreement are legitimate claims that it is important to be paid in full (NOU:12, 2007)

### ***5.10 Level of decision making authority (Decentralization versus centralization)***

Although the paragraph in ARF regarding not to enforce penalty (accept longer delivery time) when value is above 250.000 NOK ex. VAT, decreases NDLO's action area and increases bureaucracy, all but one of the interviewed was positive to the concept of a two-parted Decision making unit (DMU). Arguments in favour of current solution are that in many cases MoD is the principal and should be informed. In the same way that MoD demands a repurchase-agreement for purchases above 50 million NOK.

Another argument was that MoD as part of the Government is closer to the Norwegian industry and the right authority to execute industrial policy measures that is beyond economical thinking like e.g. prevent bankruptcy of suppliers to safeguard shipyard-jobs. One respondent also pointed that MoD might also be interested in monitoring Norwegians defence industries delivery capabilities. The majority of the interviewed though, wanted the limit to be higher. It's "pocket change" as one mentioned. While the limit may be suitable or too high for low cost projects, for the larger projects it shouldn't be much delays before the limit is reached. If a delivery worth of 250 million NOK is delayed one day the penalty claim would have reached the limit already after the first day.

The best alternative to decentralized decision-making is normally not ignorant centralization, but what can be called communication-based centralization (Vagstad, 2000)

Centralization allows the MoD on behalf of the parliament (Stortinget) to retain control over important decisions. However, relevant information is often held by the agencies (Norwegian Defence Procurement division) and not by the government (MoD) and to utilize this local information the government must either elicit it or delegate decision-making (Vagstad, 2000)

### ***5.11 Factors excusing suppliers from being penalized***

Most respondents found this a tough question to reply as there are many shades of gray and no "all-black or all-white" solutions, as the Armed Forces often are partly guilty for the delay like e.g. increase in scope. A common denominator for all respondents' acceptations for excusing the suppliers for penalties comes close to fairness, and it was

stressed by many that the decision must be based on reasonable considerations. However, some felt that being part of a hierarchical system limits the decision makers to depart what is contractual committed. Other reasons that the respondents found as excusable for not enforcing penalties was to simplify, don't create barriers to entry, feeling sorry for the supplier, avoid insolvency and keep the supplier in the market. Interestingly some pointed out that the penalty clause only should be used as a mean to force the suppliers to focus on completion of the delivery, and not enforce the penalty if the supplier did so. As one of the respondents mentioned - the penalty clause shouldn't be enforced if the supplier "expelled as much effort as possible".

Iyer et al. (2008) has identified delays within the construction industry and classified these into non- excusable delays and excusable delays.

Table 2. Classifications of non- excusable delays and excusable delays (Iyer et al. 2008).

Non Excusable delays	Excusable delays
<ol style="list-style-type: none"> <li>1. Ordinary and foreseeable weather conditions</li> <li>2. Subcontractor's delays</li> <li>3. The contractor's failure to adequately manage and coordinate the project site</li> <li>4. The contractor's financing problems</li> <li>5. The contractor's failure to mobilize quickly enough</li> <li>6. Delay by the contractor in obtaining materials</li> <li>7. Poor workmanship</li> </ol>	<ol style="list-style-type: none"> <li>1. Labour disputes</li> <li>2. Force majeure</li> <li>3. Unusual delay in deliveries</li> <li>4. Unavoidable delays</li> <li>5. Unforeseen delays in transportation</li> <li>6. Other unforeseeable causes</li> </ol>

The tables excusable delays come close to what the respondents would categorize as fairness, meaning that the supplier has acted regards fulfillment of his obligations as one would expect of a serious business partner.

### ***5.12 Competence needed at decision making unit***

The majority of the respondents found integrity as the most prominent qualification needed by the contract officers. While the project manager should be "the good guy" securing drive in the project, the contract officer should have the ability play "the bad guy" to be tough and less indulgent. Many respondents stressed the necessity that the contract officer having a holistic overview of the circumstances surrounding the procurement, and as one respondent added, "With a mix of creativity and a rigid mindset". Other qualities identified was high work capacity, simultaneous capacity, analytical skills, assessment ability,

negotiation capability, cooperating capability, knowledgeable about economical principles, project management, governmental regulation, and technological insight is an advantage.

The prime consideration in its role as an employee of central government's is the concern for political loyalty (Christensen et al., 2008). The current Stoltenberg II Government in Norway stresses that "sufficient expertise is a prerequisite for making good and appropriate public procurement" (St.mld. 36).

Standardization in order to streamline a business is a much used principle/tool within logistic and economic theory. However, Douma and Schreuder (2008) argue that professional work cannot be standardized. All an organization can do is standardize the skills required for executing this work by, for instance, demanding a certain type of training (Douma & Schreuder, 2008).

Different need for skills that are prominent differs from project to project, but Tassabehji and Moorhouse (2008) have developed a taxonomy of procurement skills, where they classify procurement skills into five groupings that more accurately mirror the requirements of modern day procurement professionals.

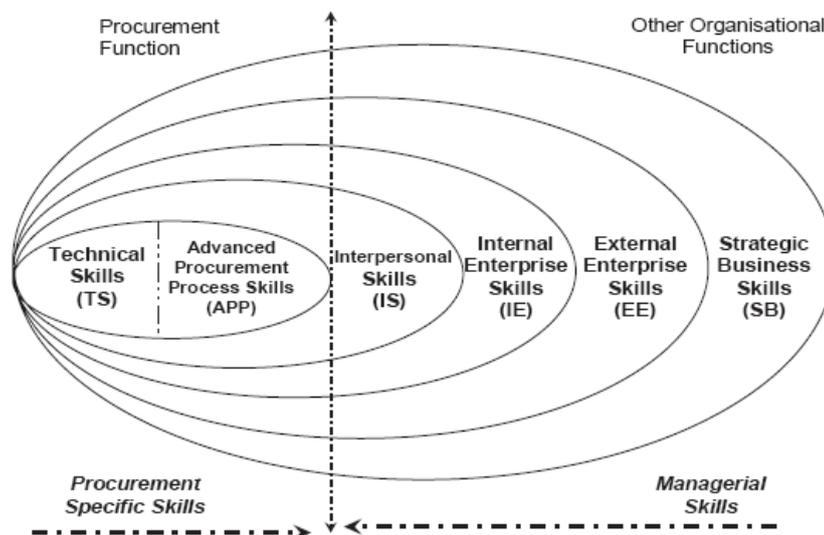


Figure 5. Categorization of skill types required for procurement (Tassabehji & Moorhouse, 2008).

In order to be effective, not all procurement professionals will necessarily be operating on the same level, and thus will not require all the skills in the figure (Tassabehji & Moorhouse, 2008). The essence is that a governmental buyer such as the Armed Forces must have a consciously approach to which skills are needed, which skills they already possesses and recruit contract officers that fills the gap between these.

It is not the skills of the single contract officer that is prevailing, but the skills of the contract division as a whole. Drawing on Adam Smith's argument that division of labour leads to specialization, and specialization creates efficiency, team composition is essential with regard to enforcement of penalty decisions. The Norwegian procurement department is matrix organized and the need of skills that are more prominent than others differs from project to project and in the different phases of the project. This implies that this way of thought regarding matrix organization can also be employed within the contract division.

While project officers are recruited with various backgrounds, the contract officers are most often recruited with a background within law or economics and logistics where the understanding of legislation is the most prevailing qualification requirement.

Interpersonal skills are the skills necessary for interaction with people in teams and on individual level including written and oral communication, conflict resolution, influencing and persuasion, group dynamics, leadership, problem solving and interpersonal and cultural awareness (Tassabehji & Moorhouse, 2008).

It is no longer necessary to make a case for the importance of learning to employees and employers in today's tumultuous business world, and the need for continual learning and development is now taken for given (Seibert, 1999)

It is a widespread understanding that experience is an important property for a good contract officer, and that there is a difference between what's been taught in school and handling the complexity and uncertainty in "real life projects".

Experience is important, but as the Armed Forces competes with a civilian industry regarding recruiting and keeping key competencies this experience is hard to gain. It is therefore of utmost importance that team composition also consist of newcomers in order to build experienced and competent contract officers



## **6. CONCLUSIONS**

The main objective with this chapter is to summarise the findings and present some limitations with the study and recommendations for future research.

The chapter is organized into two sections. Section one summarizes the findings and concludes the study. The second section reflects around the significance and limitations of the study, and what the author found most challenging, before recommend future research.

### ***6.1 Conclusions***

Returning to our main research question. How does enforcement of penalty clauses impact supplier's incentives and behavior, and how does this impact the success of the projects in the Norwegian Armed Forces?

Conducting this research did not give a single solution to this problem. There are many variables affecting the decision and the circumstances around the decision-making may differ from project to project or acquisition to acquisition.

Based on opinions and views from a sample of nine project managers and contract officers this study found indications that the Armed Forces measure success in their procurements projects prioritized as the right performance within the right time, within budget. Delays are more common than on-time deliveries, and most often this is due to suppliers underestimation of scope or underestimation of sub suppliers ability to deliver. There are variations in the design of penalty clauses. It shows that there are widespread opinions regarding the expediency of embedding penalty clauses in contracts, and the effect enforcing them or not, have on incentives, supplier behavior, and on the degree of project success. The decision making unit must do trade-offs to achieve the best possible project implementation within the boundaries of the contract, regulations and the stakeholders interest. The Armed Forces are less feasible to have favorites among suppliers or establish long term relationships, and the contract is a more important instrument to regulate the relationship than between non-governmental buyers. Having a two-parted decision making unit seem appropriable, but the limit should be considered increased.

Contract officers should be creative and rigid with a holistic overview. Team composition is essential, and the Armed Forces should consider how interpersonal skills are

incorporated in the team composition like e.g. conflict resolution that necessitates knowledge regarding human behaviour outside economical or rational incentives.

Although this study was a small project, it provided rich insights into the complexity governmental buyer faces with regards to how handle delays in order to secure project success.

## **6.2 Final remarks**

### **6.2.1 Significance of this thesis**

In the business and management research context a significant case study is one which is of general interest to business and management professionals (Remenyi et al., 2005).

Decision making are done by people, affecting people, and people are bounded rationally. However, bounded rationality only imposes a problem in environments that are characterized by uncertainty/complexity. Training/schooling, experience and reflection around a problem improves a contract officer's ability to better handle complex and uncertain situations. Hence, reading this thesis could strengthen the reader's knowledge concerning the problem.

This thesis might have contributed to a better understanding of the complexity in the decision making a governmental buyer faces when delays occur.

### **6.2.2 Limitations**

This thesis uses the case study as research tactic. The case study as an area of research is fraught with danger primarily due to the problem of subjectivity and biases (Remenyi et al., 2005). It is likely that the researcher had reflected around the topic more than the sample of respondents, and the researchers knowledge increased from interview to interview and some questions was "leading" in nature.

One of the major limitations in this study is that is based on a small sample of project managers and contract officers from one employer.

### **6.1.3 Most challenging part**

The key characteristic of scientific writing is clarity (Day, 1995). Successful scientific experimentation is the result of a clear mind attacking a clearly stated problem and

producing clearly stated conclusions (ibid.). Defining what a master thesis is all about is a challenge in itself since it means moving on unfamiliar ground, from a student's perspective. For this specific project the researcher found three elements as the most challenging.

Referring to the purpose of this thesis the researcher firstly found it challenging to make the trade-off between writing something useful for an organization (report) and contribute to the body of knowledge within a scientific field (paper) in the same document. This stresses the importance of choosing research design, and in that way the case study is an effective method as it may be used in a number of different ways that accommodate the complexity in enforcement of penalties and “encourages the blending of action and knowledge” (Remenyi et al 2005).

Secondly, the problem addressed in this research is complex and span over many different fields of interest. Hence, it has also been challenging to not to go too deep in to the juridical domain, nor either the psychology domain, but have focus within management and purchasing. This stresses the importance of narrowing and refining the research area, and categorize the problem according to which scientific community it most resembles.

The third challenge concerns time planning, hereby the trade off between searching and reading on one side, and reflecting and writing on the other side. This stresses the necessity to know the limitations of what is possible to do within a master thesis, having a realistic time plan and doing necessary tradeoffs all the way to secure a “good enough” performance (the thesis) within its time (actual time subtracted time needed to balance life) and cost (efforts and energy) limits.

These three challenges directly means that it is especially important to have a basic structure, clear understanding of the problem and how your methodology will address the problem.

#### **6.1.4 Recommendations for future research**

This thesis attempted to embrace a problem with a scientific approach. As opposed to intuition where cognitive and motivational biases might affect our perception of the world, the researcher has invested time and effort reading and reflecting around the problem, and

hence giving this thesis some kind of authority. There is nothing wrong with accepting the assertions of authority as long as we don't accept them as scientific evidence (Cosby, 1997). Scientists often rely on intuition and assertions of authorities for ideas for research (Cosby, 1997). This thesis can inspire to go deeper into parts of it. For example the role of trust and experienced fairness on the supplier.

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## Appendix 1      INTERVIEW GUIDE – Applied language

Personalia:

Stilling.....

Antall år jobbet med anskaffelser i Forsvaret.....

### **Forsinkelser:**

*Hvor vanlig har det vært at leverandøren har vært forsinket ift til kontrakten i de prosjektene du har jobbet for?*

*Hva skyldes forsinkelsene?*

*Tror du forsinkelsene hadde vært enda større uten dagbot klausul i kontrakten?*

*Har du inntrykk av at dagbøter kan forsinke prosjektet ytterligere som følge av f.eks uoverensstemmelser og skifte av fokus?*

*Har du opplevd at forsinkelser har vært til det positive for Forsvaret?*

### **Insentivmekanismer og leverandørs fremferd:**

*Har 1 promille per dag, maksimalt 10 prosent vært den vanligste incentivmekanismen i kontraktene du har jobbet med?*

*Har det vært andre incentivmekanismer i kontraktene du kjenner til?*

*Dagbot er jo en slags straff. ARF åpner opp for å bruke belønningsmekanismer som f. eks bonuser. Kjenner du til om dette har vært brukt i Forsvarets prosjekter?*

*Tror du positive belønningsmekanismer har noe for seg?*

*Kan bøtene etter din mening fremtvinge opportunistisk fremferd hos leverandøren?*

### **Prosjektsuksess**

*Hvordan måles normalt prosjektsuksess i de prosjektene du har jobbet med?*

*Tror du det i noen tilfeller vill vært større grad av prosjektsuksess hvis man ikke hadde håndhevd dagbøtene?*

*Hvis ja, det er jo da en tapt inntekt for staten. Ville graden av økt prosjektsuksess overgå tapt inntekt?*

### **Statlig versus privat styring (etikk?)**

*Bør Forsvaret som en del av staten styre etter et kommersielt profittmaksimeringsresultat og forholde seg til kontrakten uansett, eller har Forsvaret et særlig etisk aspekt å ivareta (fairness)?*

*Hva er de største forskjellene mellom Forsvaret og profesjonelle sivile aktørers innkjøpsadferd? Rutiner, krav, forventninger.*

### **Avgjørelsesmyndighet**

*Etter ARF ligger avgjørelsesmyndigheten til å ettergi bøter hos FD for beløp over 250.000 NOK. Hvor mener du avgjørelsesmyndigheten bør ligge i spørsmålet om å ettergi dagbøter ved forsinkelser, og hvorfor? (differensier gjerne)*

### **Kjernespørsmål**

*Hvilke grunner mener du kunne fritatt leverandør fra dagbøter?*

*Kan du gi eksempler på prosjekter der bøtene ble redusert, og årsaken til reduseringen?*

## **Appendix 2      INTERVIEW GUIDE - English translation**

Personal details

Position ... ..

Number of years worked in procurement in the military ... ..

### **Delays:**

*How common has it been that the vendor has been delayed in relation to the contract in the projects you have worked for?*

*What caused the delays?*

*Do you think the delays had been even bigger without penalty clause in the contract?*

*Do you have the impression that the daily penalties could delay the project further as a result of inconsistencies and change of focus?*

*Have you experienced that delays have been positive for the Armed Forces?*

### **Incentive Mechanisms and supplier's conduct:**

*Has 1 per mille per day, maximum 10 per cent been the most common incentive mechanism in the contracts you have worked with?*

*Have there been other incentive mechanisms in contracts, you know?*

*Penalties are some sort of punishment. ARF opens up for using reward mechanisms such as bonuses. Do you know if this has been used in the military projects?*

*Do you think positive reward mechanisms have anything to offer?*

*Can penalties in your opinion enforce opportunistic behavior at the supplier?*

### **Project Success**

*How is normally the project's success measured in the projects you worked with?*

*Do you think that in some cases there would be a greater degree of project success if the Armed Forces didn't enforce the penalties?*

*If yes, that's lost revenue for the state. Would the degree of increased project success surpass the lost income?*

### **State versus private governance (ethics?)**

*Should the Armed Forces as part of the state board for a commercial profit maximization results and relate to the contract regardless, or have the Armed Forces a special defense to safeguard the ethical aspects (fairness)?*

*What are the main differences between military and civilian professional actors' purchasing behavior? (Procedures, requirements, expectations).*

### **Decision authority**

*According to ARF; MoD has the decision authority to waive penalties for amounts over 250,000 NOK. At which level do you think the decision authority should be in question to waive penalties, and why is that? (Please differentiate)*

### **Core Questions**

*Which reasons do you think could exempt the supplier from being penalized?*

*Can you give examples of projects where the penalties were reduced, and the reason behind the reduction?*