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SUPPLIER CARTELS
IN THE NORWEGIAN ELECTRIC UTILITY BUSINESS –
How Buyers' Behaviour Affects Competition

by

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This thesis was written as a part of the Master of Science in Economics and Business Administration program - Major in Marketing and Competitive Analysis. Neither the institution, nor the advisor is responsible for the theories and methods used, or the results and conclusions drawn, through the approval of this thesis.

Forord

Jeg vil først og fremst takke Rune Gunnar Torsvik for uvurderlig hjelp gjennom konstruktive råd.

Dermed går en stor takk til alle folk i norske energiselskaper som har stilt opp som respondenter til denne undersøkelsen og gitt meg deres støtte.

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Tusen takk, alle sammen!

Natalia Dalane

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Contents

1.	INTRODUCTION	5
1.1	BACKGROUND.....	6
1.1.1	<i>Norwegian Electric Utility Industry - buyers vs suppliers</i>	6
1.1.2	<i>History of Cartels</i>	8
1.2	PROBLEM DEFINITION.....	9
1.3	METHODOLOGICAL APPROACH.....	11
1.4	LIMITATIONS.....	13
1.5	OUTLINE.....	14
2.	THEORETICAL BACKGROUND	16
2.1	WHAT IS A CARTEL?.....	16
2.1.1	<i>A typology of Interfirm Cooperation</i>	16
2.1.2	<i>Effects of Cartels</i>	20
2.2	MARKET DETERMINANTS OF CARTEL DURATION.....	26
2.2.1	<i>Market Power</i>	26
2.2.2	<i>Hallmarks of Industries exposed to Cartels</i>	29
2.3	INDUSTRIAL ORGANIZATION.....	33
2.3.1	<i>The Paradigm of Industrial Organization</i>	33
2.3.2	<i>Competition Policy</i>	34
2.3.3	<i>Competition law in Norway (Konkurranseloven § 10)</i>	35
2.4	INDUSTRIAL BUYING BEHAVIOUR.....	40
2.4.1	<i>Purchasing Process Approach</i>	40
2.4.2	<i>The Buying Process in the El-industry in Norway</i>	49
2.4.3	<i>Warning Signals in Tendering</i>	54
2.4.4	<i>Preventive Measures</i>	56
2.5	BEHAVIOURAL THEORIES.....	58
2.5.1	<i>Theory of Planned Behaviour</i>	59
2.5.2	<i>Influence by Cialdini</i>	60
2.5.3	<i>The Conceptual Model (TPB Modified)</i>	62
3.	METHOD	66
3.1	SURVEY ADMINISTRATION.....	66
3.2	QUESTIONNAIRE DESIGN.....	68
3.3	VALIDITY AND RELIABILITY.....	82
3.3.1	<i>Validity</i>	82
3.3.2	<i>Reliability</i>	83
4.	ANALYSIS AND DISCUSSION	85
4.1.1	<i>Questionnaire</i>	85
5.	CONCLUSION	151

5.1	DISCOVERIES AND IMPLICATIONS.....	151
5.2	LIMITATIONS AND SUGGESTIONS TO FUTURE RESEARCH	158
6.	REFERENCES	160
7.	APPENDICES.....	164
7.1	APPENDIX 1 – SURVEY QUESTIONNAIRE (IN ENGLISH)	164
7.2	APPENDIX 2 – SURVEY QUESTIONNAIRE (IN NORWEGIAN)	175
7.3	APPENDIX 3 – ATTITUDE CONSTRUCTS ACCORDING TO CIALDINI	187

1. Introduction

Ever since the time of Adam Smith, the founding father of Economics, competition has been viewed as a natural market force that coordinates the individual behaviour of market participants. Like an “invisible hand”, competitive interaction alters individual planned behaviour (Budzinski 2004) towards more efficient economic performance. As a facilitator of general economic wealth and efficiency, competition ultimately results in significant improvements of social wealth.

Illegal collusion practices in the market place (cartels) will seriously undermine competition. This will harm consumers by the increase of prices and restriction of supply; it will tilt the balance of market power, increase waste and lead to inefficiencies in countries whose markets would otherwise be competitive (OECD Policy Briefs 2002).

Over the past decade a series of cartels have been disclosed in the supply market to the energy industries in both Norway and the EU. The effects of such collusions are increased costs to owners and operators of power plants and electrical grids which, in turn, will lead to increased electricity prices for their customers.

Norway is a major energy nation in Europe based on a completely unique set of resources: abundant hydropower, petroleum and natural gas, as well as new renewable energy sources such as wind power and biomass. Whereas Norway has only one per cent of Europe’s population, it represents 20 per cent of total hydropower resources, 40 per cent of the gas resources and 60 per cent of the oil resources.¹ According to Statistics Norway the value of supplies and services to electric utilities in Norway amounted to ca 27 billion NOK (approx 3,5 bill EUR) in 2007.² A sector of this scale constitutes considerable earnings potential for suppliers willing to illegally coordinate their market activities, to the detriment of society.

This thesis addresses the problem of supplier cartels discusses the structural and behavioural specifics that make the industry especially exposed to the threats of collusions. Furthermore, it carries recommendations on how to counter them by means of greater awareness in the procurement process.

¹ www.energinorge.no

² Data for 2007 are to be found at http://www.ssb.no/english/subjects/10/08/10/elektrisיתהאר_en ”Table 26 Internal accounts, by type of activity for all units in electricity supply” and “Table 34 Acquisition and sale of fixed assets”.

1.1 Background

1.1.1 Norwegian Electric Utility Industry - buyers vs suppliers

An *electric utility* generally refers to any plant, works, system, facilities or properties, together with all parts and appurtenances thereto, including contract and franchise rights, used and useful primarily for the production, transmission or distribution of electric energy.³

The electric utility industry in Norway is mainly represented by companies engaged in hydropower generation, district heating, and power transmission/distribution grids. Solid fuels such as onshore oil and gas constitute a relatively small part of the energy business, this in contrast with counterparts in the EU which rely on crude oil and nuclear fuel for energy production.

The market consists of a handful of big multi-utility companies (those providing more than one essential service⁴). The major players are Statkraft, Statnett, Hafslund, BKK, Lyse, Agder, Skagerak, Eidsiva, and Trønderenergi. There are also a number of smaller companies geographically spread around the country. Whereas, large companies naturally represent a major share of the market the smaller parties tend to group into regional cooperation units in order to derive synergies in smaller procurement projects. These are Kjøpekraft Vest in western Norway, Trønderkraft, Buskerud, and Elinor in the north. When working on large-scale projects companies enter contracts on their own.

The prevalence of expensive deliveries makes the industry preoccupied by general reliability, quality, compatibility and complementarity of the sought solutions. A wrong choice of either supplier or product can result in a range of problems, such as reduced lifespan or a sudden electricity black-out in a given geographical area. As such, the consequence cost can be much higher than initial investment cost.

North America, Europe and Japan make up reasonably segregated markets with a few dominant vendors of engineering solutions and components to similarly dominant infrastructure customers. Other countries (Norway on the same level as China) are being served by manufacturers from these markets.

³ <http://definitions.uslegal.com/e/electric-utility/>

⁴ Collins English Dictionary

In Europe major suppliers to the energy industry are represented by following dominant firms:

transformers: ABB, Siemens – a duopoly of large scale electrical equipment

iron piping products: Saint Gobain (PSH) have a European monopoly

turbines and generators: Alstom, Siemens

cables and cabling systems: Nexans (Alcatel) - a globally leading company

Three dominant companies – ABB, Siemens and Alstom – deliver turnkey construction projects to the industry. Same three firms, with the addition of Schneider Electric, cover the electrical components supply segment. Such interlacement in adjacent market segments often leads to further mergers and acquisitions of one by another, which limits the supplier market to an even bigger extent.

These big manufacturing conglomerates can choose whether to sell their products and services directly or through intermediaries. In the latter case, they may either already own those agents or exploit their market power in order to fix the price level and/or the available assortment of goods. Also, the great investments and proprietary technology necessary for business establishment as well as compatibility issues with current equipment create extensive barriers for newcomers. Thus, the market is relatively closed and to a greater or lesser degree controlled by the already existing players.

In sum, high shifting costs related to existing solutions, unavailability of substitutes in the market, the importance of system reliability for the customer combined with well established selling networks with sometimes exclusive access to sub-suppliers, all this creates an imbalance in favour of the supplier. Moreover, should they try to cooperate on pricing this would have a negative impact on the utilities industry and will lead to increased costs for the end consumers. In order to counterbalance this imbalance government regulates the settings in which competition takes place. On one hand, suppliers are regulated through the Competition Law supervised by the Norwegian competition authorities. Buyers, on the other hand, have to follow clearly defined tendering procedures established under EU-regulations on public procurement. Both sets of laws are relatively new and came into force within the last two decades. The Competition Law was established in 1993 with last revisions in 2009.⁵

⁵ <http://www.lovddata.no/all/nl-20040305-012.html>

Administrative regulation in the supply sectors (water and energy supply, transport and post services) under and in pursuance of laws about public procurement was introduced in 1994 and was revised quite recently (2010).⁶

What effect have these laws had so far on the markets?

1.1.2 History of Cartels

The effect the laws have had on the markets can be traced through cases brought against cartels in the industry. Media overview indicates that the industry didn't publicly address such practices until the laws were introduced. A quick search in available publications offers an insight into the more well-known cartel disclosures in the industry.

In 2007 the EU-commission found ten international companies participating in illegal price-fixing activities in the market for an important component to electrical transformer stations. The commission imposed fines of NOK 6,2 billion (EUR 397 million) as a remedy (Konkurransetilsynet NHO ledersamling 14.09.2007) out of which German company Siemens alone was fined NOK 1,8 billion (EUR 215 million) which became the highest fine in EU history for this kind of crime levied against a single company (Dagens Næringsliv 24.01.2007). The total of EUR 397 million became the second highest fine ever imposed in the EU (Konkurransetilsynet, NHO ledersamling 14.09.2007). The other companies involved were Alstom and Areva from France, Japanese electric giants Fuji, Hitachi, Mitsubishi and Toshiba, the firms German Schneider and VA Tech which were acquired by Siemens in Austria (Dagens Næringsliv 24.01.2007). At the time most of the companies had already been suppliers to or were current bidders to the Norwegian electric utility market.

In 1997 Siemens and ABB were cited for price-fixing and market sharing. The companies were dominating the market for suppliers of equipment to production, transmission and distribution of electrical power in Norway. That case concerned the supply of machinery and control installation systems. Many Norwegian energy industry companies presented compensation claims in the civil action. The case was settled out in 1999, and the size of settlement ABB and Siemens paid to the biggest of the victimized energy companies constituted NOK 55 million. ABB alone got a fine of 13,5 million NOK, which at that time

⁶http://www.lovdato.no/cgi-wift/wiftdles?doc=/usr/www/lovdato/for/sf/fa/fa-20060407-0403.html&emne=forskrift*%20om*%20innkj%20d8psregl*&

was the highest fine imposed to a single company in Norway (Konkurransetilsynet, Etikk og Innkjøp 25.10.2006). At the time of disclosure the cartel had been active for a long time and had caused extensive harm to the customers (IT Avisen 02.06.98).

The same year 1997 three companies - Alcatel, Siemens and ABB - were found guilty of illegal price-fixing in Germany (IT Avisen, 25.11.97).

Other examples of cartels and total fines/seizures amounts in cases that concerned el-industry in Norway: electric suppliers (1999) - 20 mil NOK, piping wholesalers (1995) - 17 mil NOK, steel wholesalers (1991) - 13 mil NOK (Konkurransetilsynet, Etikk og Innkjøp 25.10.2006). These cases have been in top-5 of the biggest cartel cases in history of the Norwegian Competition Authority in the period 1986-2003 (Konkurransenytt 2/2003).

It is not the author's intension to review all available data, but rather to present a backdrop from which to draw certain conclusions. First, same companies have engaged in illegal collusive practices several times. Second, collusions have not been limited by geography or to one country. Third, the amount of fines paid by cartel participants has significantly increased in the last cases of disclosure. Finally, as cartels are now being disclosed whereas previously they were not, we can presume that the laws are working.

1.2 Problem Definition

The supplier market to the electric utility industry (will sometimes be shortened as *el-industry*) is a clearly defined relatively protected market with few dominating participant, operating in a transparent business environment. Media review on the background of the market characteristics suggests that cartels still may exist in the market.

Is there something that can be done in order to avoid this unfortunate practice?

Energy companies have to act within the given settings, provided by market characteristics and applicable law. While laws are the controlling mechanisms in the business there are still decisions to be made by customers which ill influence how suppliers are selected and contracts awarded. All those choices can work either as preventive measures or stimulators to supplier illegal collusion.

Are customers aware of the powerful tools they can employ? Do they attempt to utilise the “invisible hand” of the market? What do they do in order to maintain real competition between the bidders? What can they do, and what are they actually doing?

The focus of this *research* will be on following *question*:

Does buyers’ behaviour facilitate collusion on the marketplace?

In order to facilitate competition, buyers must try to find new suppliers from other markets to compete for deliveries in Norway. Granted, there may be some hampering factors to that goal. For example, when same buyers interact with same suppliers in a relatively closed environment, the market players become familiar with each other over time. This is strengthened by the fact that in the past there was just one educational institution in Norway which graduated engineers (Sivilingeniør) - Norges Tekniske Høyskole (NTH). Today this institution, The Norwegian University of Science and Technology, (NTNU), has lost its monopoly on engineering profession but continues to be the alma mater of the captains of industry. The graduates of that institution are to be found on both sides of the market. Networking continues with employee exchange which happens as a result of search for career advance. Such intertwined nature of professional relationships goes to show that both sellers and buyers develop longstanding bonds with each other.

Historically, the post-war Norwegian government set restrictions against buying from abroad in form of additional costs on such purchases. This resulted in the development of a national manufacturing industry for major components – hydropower turbines, generators, transformers, cable production. These were successfully established by the 1970’s, when the regulation was removed. By that time it was natural to buy from domestic vendors and the favouring of Norwegian suppliers continued for a while. Similar policies had created national vendor markets all over Europe. It became a matter of national pride to favour domestic vendors over more competitive foreign companies. The establishment of the common market was a clean break from historical precedent. It led to consolidation where large European firms acquired local industry and the goodwill that went with it.

The peculiarity of the business environment, the existence of tight bonds between the market players and the development of preference towards national based manufacturers may make customers reluctant to breaking up the status quo. Consciously or unconsciously.

Our *primary hypothesis* will therefore be as following:

Buyers' behaviour facilitates collusion on the marketplace.

1.3 Methodological Approach

The analytical process and outputs of this study will be rooted in the following sources:

- **Academic literature**

Literature will provide a toolkit of methods and models that will further be applied to create more specific predictions.

First, a sound theoretical framework for understanding of the phenomenon of cartels will be presented. Relevant terms and concepts will be defined.

Second, an explicit focus will be taken on industrial buying behaviour with description of specific processes between different market players (sellers, buyers and Government). An accurate description of these processes in the el-industry will be introduced after presentation of the theoretical parts.

Finally, on the basis of a multiple construct used to predict and explain behaviour, the Theory of Planned Behaviour (TPB), a conceptual model will be developed. The approach of Robert B. Cialdini, a Professor of Psychology at Arizona State University, who explains choices people make by the effect of social influence, will be employed in order to describe the attitude construct in the model. Thus, both theories will be integrated into the conceptual behavioural model and adapted to the context of electric utility industry.

- **Other open sources (laws and regulations)**

This study will take account of the existing procedural and substantive requirements in the Norwegian supply sector. Hence, the relevant laws and regulations available on official Governmental Internet sites will be reviewed.

- **In-depth interview**

In order to gain insight into the problem nexus, it was decided to carry out an in-depth interview with a representative of a major Norwegian electric utility company, Mr Øystein Helle, Head of the Purchasing Department at BKK. The qualitative data collected during this

interview will not be presented as a separate chapter, but rather be used for insight into the industry and current procurement procedures in the energy supply sector.

Notion clarifying objectives need to be fulfilled in following areas:

- characteristics of the industry
- laws and regulations in the energy supply sector
- shared systems and procedures used in the el-industry
- internal procedures and methods

Initial completed theoretical overview and openly available information will provide the basis for developing a guide for this interview (not enclosed).

Furthermore, it was intended to carry out in-depth interviews with other informational sources, such as:

- Representative of the Norwegian Competition Authority (Konkurransetilsynet) - in order to help interpret laws that regulate suppliers' behaviour and gather information on Governmental mechanisms protecting competition on the buyers' side.
- Representative of the Norwegian Complaints Board's (KOFA) - in order to help interpret laws which regulate buyers' behaviour and gather information on Governmental mechanisms protecting competition on the suppliers' side.

These interviews would assist in the gathering of accurate data regarding earlier vs current market situations, thus tracking behavioural trends of both suppliers and buyers. Regrettably, the authorities declined to collaborate in the research for this report.

- **Survey**

Towards the registration of common beliefs, opinions, prevailing views, shared conceptions and misconceptions among the buyers, a survey method was employed. This study is also concerned with determining frequencies with which hypothesised behavioural patterns occur, as well as describing relationships between certain variables.

The advantages of using a survey method include the standardisation of data, the ease with which surveys can be administered as well as the ease in tabulating and analysing the data.

Further, surveys can reveal otherwise unnoticed patterns and information, and are sensitive to small group differences (Burns and Bush 2000; Churchill 2001).

The survey will be carried out among Norwegian electric utility companies, with people responsible for awarding contracts as respondents. Information accessed from the literature and other open sources, as well as the clarifying interview with the industry's expert will be employed in development of the questionnaire. The methodology will be further elaborated in Section 3.

1.4 Limitations

The *aim* of this research is to conclude on whether or not the energy industry buyers support conditions facilitating collusions among suppliers. The focus will be limited to the prevailing perceptions among buyers that result in a competition-limiting supplier approach. Since the concern is taken on behavioural constituents, behavioural theories will be employed. Only data from buyers themselves will be used as a source for primary data.

Thus, the research has the following *objectives*:

- 1) Measure the level of awareness of the problem of supplier cartels among industry players.
- 2) Examine the working methodology in the industry in order to see whether the players use their power in order to undermine supplier collusions.
- 3) Map buyers' perceptions and attitudes regarding the supplier market and the conditions in which they operate.

This research focuses on procurements of products and services above the EEA threshold value in the public supply sector, which after the change of 01.03.2010⁷ constitutes 3,2 mln NOK. This is emphasized because the Regulations relating to Public Procurement in the supply sector distinguish procurements below and above the EEA threshold value (also a different threshold value is valid for procurements in building and construction, but since this category is not industry-specific, it is not taken into account in the study).

⁷ Del II, § 2-3. *Terskelverdi*: <http://www.lovdata.no/cgi-wift/ldles?xdoc=/for/ff-20100125-0066.html#map0>

1.5 Outline

This thesis is organized as follows. The theoretical part of this paper deals with various theories on cartels, market organization and industrial buyer behaviour, providing the theoretical basis for further empirical research. The first theoretical subsection provides definitions, introduces typology of interfirm cooperation, and an overview of the cartel effects as an academic support to the actuality of the topic.

The second theoretical subsection accounts for macroeconomic theories dealing with market structures distinctive for cartelized markets. Theories on monopoly and oligopoly as typical market failure situations are overviewed. Two interrelated theories on hallmarks of industries exposed to cartels are then presented.

The third theoretical subsection stands for introducing the Paradigm for Industrial Organization, which contains the constructs of market structure, market behaviour and market performance which different forces may affect. The theories flow to the role of governmental policies in market regulation. The Norwegian Competition Authority secures a fair play of competition on the side of suppliers, providing that the Competition Act (§10 in this paper) is not violated by competitors.

The fourth theoretical subsection focuses on the buyer side of the market. The theories of industrial buying behaviour are followed by a specific focus on the el-industry and conditions in which the industry operates. The purchasing process approach employed in the industry is described, and Public Procurement Act regulating competition on the side of the buyers is introduced. Systems used in the industry as a result of the law requirements are also presented. The subsection provides the Checklist for Public Procurements as a toolkit helping to uncover cartels.

As a round up of the theoretical part of the thesis, I present my own conceptual model for empirical research in the fifth theoretical subsection. The model is rooted in the Theory of Planned Behaviour (Ajzen 1985), and is adapted to the el-industry conditions. In order to provide more to understanding of attitudes and perceptions I further employ Cialdini's psychological postulates which assumingly impact decision taking in this industry on the same line as other spheres of life. The graphical representation of the theoretical approach is summed up in Figure 1.

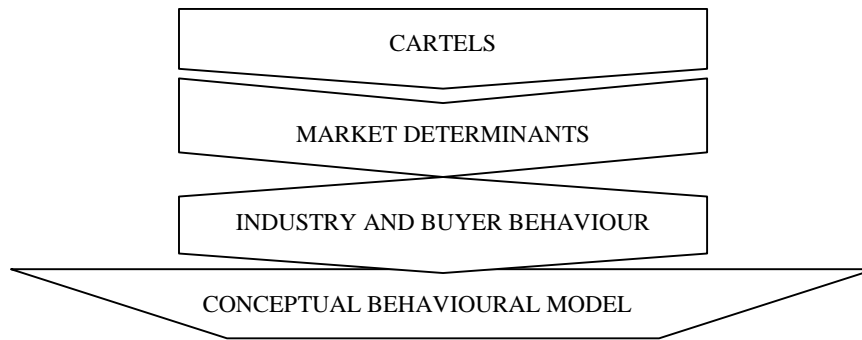


Figure 1. Theoretical approach

Methodological part, Section 3 of the paper, deals with design and data collection.

Subsequently, results of the research are presented in Analysis and discussion, Section 4.

Finally, discoveries and implementations as well as critical overview of the study and perspectives for future research are presented in Section 5.

2. Theoretical background

2.1 What is a Cartel?

This first subsection deals with theories behind the phenomenon in interest, cartels, and the effect they have on the market. Different definitions based on an array of cartel types are offered; a definition of cartel for this research is introduced. Effects the cartels have will be overviewed and examples from the el-industry will be presented.

2.1.1 A typology of Interfirm Cooperation

The literature offers a variety of definitions of cartel. Levenstein and Suslow (2006) explain this by the fact that a wide variety of organizations might reasonably be described as cartels.

An early expert on cartels, Joe S. Bain (1959), wrote: "Collusion in general implies ... that the rival sellers in some manner arrive at an understanding as to what price to charge or what outputs to produce, or both" (pp. 271-72).

Another economist, the Danish-American H. Brems (1951), defined cartel more specifically as "a voluntary, written or oral agreement among financially and personally independent, private, entrepreneurial sellers or buyers fixing or influencing the values of their parameters of action, or allocating territories, products or quotas, for a future period of time".

The diverse forms of cartels are predetermined by their objectives.

Collusion that limits competition

Usually economists define cartel as "a combination of independent enterprises designed to limit competition" (for example, Danielsen 1976). Levenstein and Suslow (2006) further clarify that "producers form cartels with the goal of limiting competition to increase profits. By restricting output and increasing price, ideally to the price a monopolist would set, profits are jointly maximized". This argumentation is in accordance with Roberts' (1985) view on the rational behaviour of a group of firms, which is "to form together into a cartel and maximize joint profits or, more generally, act in a manner efficient to the group" (p. 401). Despite the difference in definitions, most economists agree in their view of cartels as associations of independent firms with monopolistic aims.

Jeffrey Fear (2006) offers a chart in which cartels are classified along their objectives (see Figure 2). He views cartels as “a subset of inter-firm cooperation, which ranges from highly fluid spot markets with no individual market power to fully integrated enterprise hierarchies. The range describes the degree to which a formal organization wields authority over market transactions, but one cannot judge actual market power from the graphic” (p. 7). Altogether, cartels are “voluntary, private contractual arrangements among independent enterprises to regulate the market” (ibid).

Among the types of cartels in the Fear’s (2006) classification, the middle four types of “hard-core” cartels are those that harm competition directly. This is the reason why such agreements draw a special attention from competition authorities in both, the European Union and the United States, and where under the current laws they are considered illegal.

Europe’s Press releases⁸ has chosen the following definition of a cartel: “It is an illegal secret agreement concluded between competitors to fix prices, restrict supply and/or divide up markets. The agreement may take a wide variety of forms but often relates to sales prices or increases in such prices, restrictions on sales or production capacities, sharing out of product or geographic markets or customers, and collusion on the other commercial conditions for the sale of products or services”.

In the context of this paper, the "hard core" cartels definition is as following:

“Hard core” cartels are *anticompetitive agreements by competitors to fix prices, restrict output, submit collusive tenders, or divide or share markets* (OECD 2000).

⁸ EUROPA – Press Releases:
<http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/08/30&format=HTML&aged=0&language=EN>

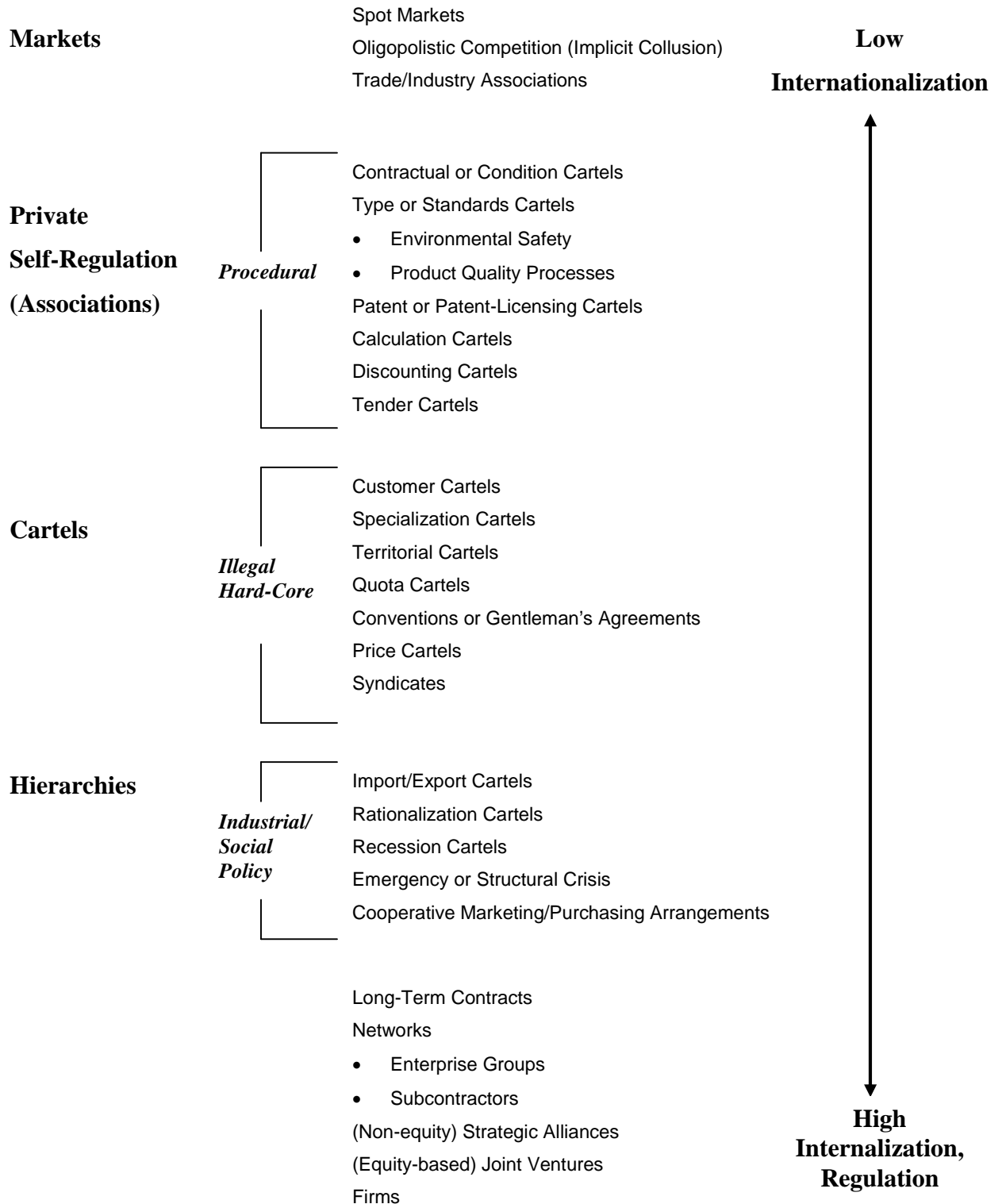


Figure 2. A Spectrum of Interfirm Cooperation
 (Jeffrey Fear (2006, p.6) adapted from Wolfgang Korndörfer (1988))

Collusive tendering or bid rigging

The specifics in which the electric utility industry operates in its turn determines specifics of cartel agreements. Further in the thesis more definitions will be provided and details overviewed, but in the context of cartels definition some practices require more attention.

The Norwegian Competition Authority, *Konkurransetilsynet*, in its Guidance on Tendering and Project Agreement state that: **collusive tendering** “occurs where undertakings collaborate on responses to invitations to tender.”⁹ This cooperation of bids puts the buyer in an unfavourable position since he does not receive as high profits as he would receive in case the tendering process was between independent bidders. In contrast, the buyer will be under impression that he achieved a profitable contract. According to the earlier overviewed theory on cartels, collusive tendering ultimately results in reduced competition in the market.

Konkurransetilsynet provides examples of illegal cartels (Etikk og Innkjøp 25.10.2006):

- Bid rigging: two or more competitors coordinate prices and contract terms before a bid is sent
- Price-fixing: two or more competing players agree upon or try to influence prices, discounts or profits
- Market sharing: competitors agree upon geographical division, customer division, product specialisation or they set quotes

All these examples can be the case with collusive tendering, depending on what was agreed upon before submitting the bid. Konkurransetilsynet notes that various forms of illegal tendering agreements can result in both price-fixing and market-sharing. There can be cooperation agreements where the tenderers share among themselves the tender or agree on the lower offer to be submitted (Guidance on Tendering) overviewed further.

Types of cartel strategies in bidding

Comanor and Schankerman (1976) distinguish *two types of cartel strategies in bidding*:

⁹ <http://www.konkurransetilsynet.no/en/legislation/Fact-Sheet-Guidance-on-Tendering-and-Project-Agreements/>

The first one is when bidders agree to set identical bids to insure that no measure of price-shading occurs. The agreed upon price generally represents a high profit margin so that all cartel members benefit. The bid-disclosure procedure at the end of the tender provides the primary vehicle of enforcement so that all firms know if the agreement has been violated. One of the possible ‘disadvantages’ of such strategy for cartel members is that due to little basis by which to choose among rival sellers in case if all other criteria are alike, buyers have to flip a coin in order to choose whom to award the contract.

An alternative strategy is used when cartel members rotate low bid positions among the various bidders. Specific firms are assigned individual contracts and competing sellers are required in these instances to “bid high”. It is essential to the scheme that competing sellers bid sufficiently high so that the specified winner can still receive a generous return (p. 282). This is the case of *market sharing* set by cartel agreements. This way the cartel makes sure that the degree of uncertainty regarding the prospective output is reduced. The strategy provides cartels with a mechanism (agreement) by which output levels can be divided among firms, and cartel profits - divided.

The economists conclude that under an identical bid regime, the larger firms in the market will suffer a reduction in their market shares as all firms are placed in comparable positions and the expected share will approach the mean shares of participating firms. Smaller firms, in contrast, will gain larger market shares. On this account, larger firms should prefer a rotating bid arrangement to an identical bid scheme, while smaller firms should prefer identical bid arrangements (Comanor and Schankerman 1976). McAfee and McMillan (1992) later called these two cartel strategies as “Weak cartels” (because bidders who submit exactly the same bid are unable to make transfer payments among themselves) and “Strong cartels” (both transfer payments and exclusion of new entrants are done).

2.1.2 Effects of Cartels

Organisation for Economic Cooperation and Development, OECD, states in 2002 report, that cartels are universally recognised as the most harmful of all types of anticompetitive conduct, which offer no economic or social benefits that would justify the losses that they generate. But though the harm from cartels is large is undisputed, quantifying it precisely is difficult. Some insights from the literature can be structured, for example, in the following manner.

On prices

One of the aims with cartels for their participants is increased surplus through increased prices. The international empirical research done by Oxera in 2009 (see Figure 3) shows that the typical overcharge by a cartel is 10-20%. However, in some cases the price increase can be as high as whole 50-60% and even 70%.

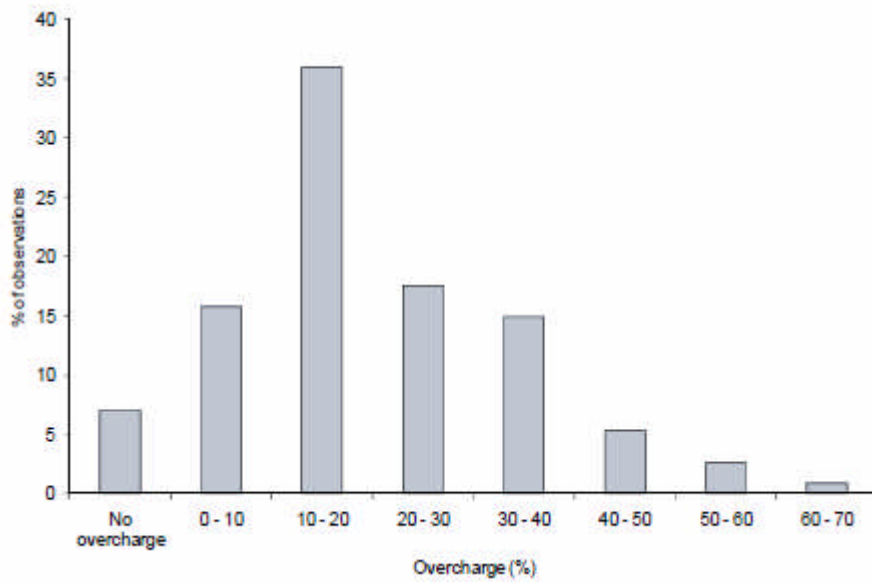


Figure 3. Cartel overcharges in empirical studies of past cartels (Source: Oxera (2009) analysis based on underlying Connor and Lande data and selection criteria applied by Oxera)

The economist Joseph Harrington (2004) argues that upon a cartel formation, price does not immediately jump from the endowed non-collusive price to some new higher steady-state level; rather, there is a transitional path. First, they obviously want to raise price, because higher profits is the primary reason for creating a cartel. Second, they want to raise price in such a manner as to maintain the internal stability of the cartel; that is, all firms prefer to go along with the proposed collusive price path rather than cheat on the cartel and grab a bigger share of the market (p. 651). This approach not only helps the cartel maintain internal stability, but also lets it remain unnoticed by the customer.

Earlier mentioned Comanor and Schankerman (1976) continue that while little is known regarding cartel coordination costs, it seems likely that those costs will increase with the number of firms which are party to the agreement. There is a greater number of required communication flows, and also there may be a greater disparity of interests among the firms searching for an agreement. The scientists argue that not only should those costs rise with the

number of firms, but also we should expect them to rise more rapidly under a rotating bid regime than under one of identical bids.

On society

As said, the main harm arising from hardcore cartels is that parties further down the supply chain pay more for the product than they would have paid in a non-cartelised market. The higher price normally results in existing customers purchasing lower volumes, and/or in customers who would have purchased the product at the non-cartelised price not purchasing at all. The ultimate harm caused to particular direct and indirect customers by the overcharge (and also the effect on the volume purchased) will depend on the extent to which the price increase caused by the cartel is passed along the supply chain (Oxera report 2009).

Konkurransetilsynet sums up the effect of a cartel in Figure 4:

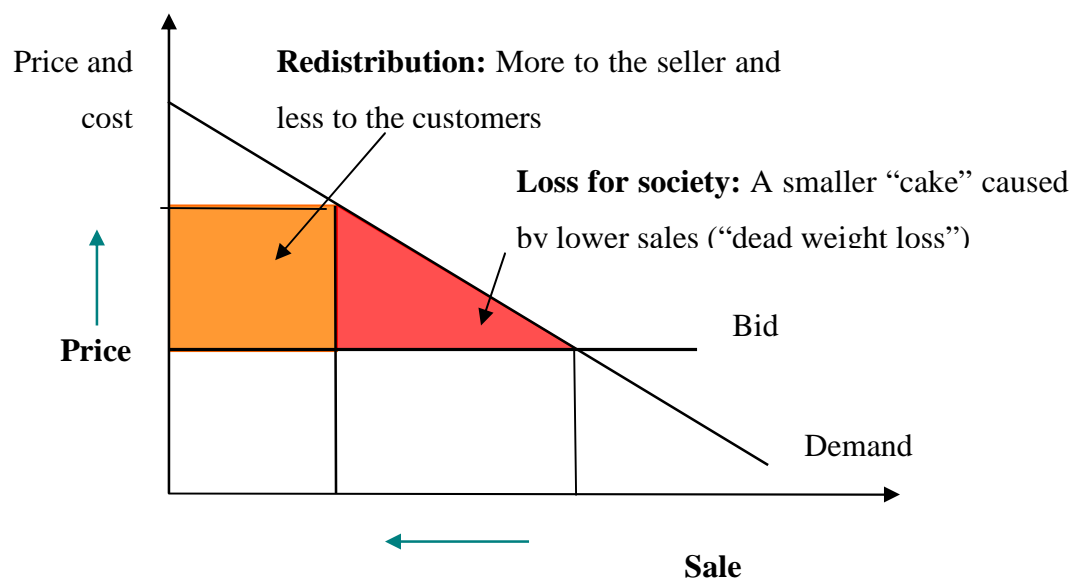


Figure 4. Effect of market power: lower sale and higher price (Konkurransetilsynet, NHO ledersamling 25.10.2006)

The figure illustrates how cartels that successfully reduce output and raise price above the competitive level cause consumers to purchase less of the cartelised product and to pay more for the quantity that they do purchase. By paying the cartel price they consumers unknowingly transfer wealth to the cartel operators (OECD 2002).

Consumers choose either not to pay the higher price for the cartelised product that they desire, or forgo some or all of the products. Thus, high prices force consumers to substitute a product that they can no longer afford to buy with a less desirable product or service of a

lower quality. Such misallocation of resources in the long term leads to a lower growth of the entire economy.

On market

Levenstein and Suslow (2001) in their study of private international cartels underline the duality between cooperation and competition. They state that cartels use a variety of techniques to **block entry** into their particular industry. Even in cases where entry into an industry is fairly easy and a large number of firms are in fact active, various relationships among producers, either as suppliers or customers, provide many opportunities for cooperation and may substantially lessen competition despite a large number of participants.

The lack of competition and the poor quality in supporting sectors limit the capability of domestic firms to adapt and meet the challenges of international competition. With increased competition forcing firms to adapt to just-in-time production and management systems, flexibility, speed and reliability regarding the delivery of goods have assumed significant strategic importance and are a key source of dynamic competitiveness (UNCTAD 2009).

On innovation

Since a cartel shelters its members from full exposure to market forces. The result could be a reduced pressure to control costs (OECD 2002). Thus, the limited competitive pressure hinders efficiency which reflects in lower levels of productivity growth and innovation.

Bouwens and Dankers (2005) note that if a product is subject to change due to frequent technological improvements or changes in consumer behaviour, a cartel agreement will be more difficult to sustain. This way product differentiation can destabilize or undercut existing agreements easily.

Other effects

A pattern of increased cartel disclosures can be followed with introduction of more strict antitrust prohibitions (like it happened in the United States in the late nineteenth century, OECD, 2002). Harrington (2004) argues that though making price-fixing illegal may induce a cartel to initially price lower, in some cases it allows the cartel to eventually price higher. Risk of detection and penalties in this case can serve to stabilize a cartel so that participants do not to deter from the set price in fear of detection.

Last but not least, competition crime goes hand in hand with other types of crime. The most common one which is hard to detect is corruption (Konkurransetilsynet, NHO ledersamling, 14.09.2007).

In sum, reduction in competition as consequence of cartel agreements leads to higher prices, a reduction in choice, and a reduction in quality. All of these effects adversely affect efficiency in a market economy.

Some practical support

Despite relatively closed market difficulty in obtaining data, open media sources offer a practical insight into cases on this issue. Konkurransetilsynet sheds some light around the ABB-Siemens case. The two firms became penalized for collusive tender when delivering to the Norwegian energy industry. From this case conclusions can be drawn around:

- **market sharing**

In Figure 5. Konkurransetilsynet's Director, Knut Eggum Johansen, presented the ABB-Siemens case at NHO's leader gathering at Losby (14.09.2007)¹⁰.

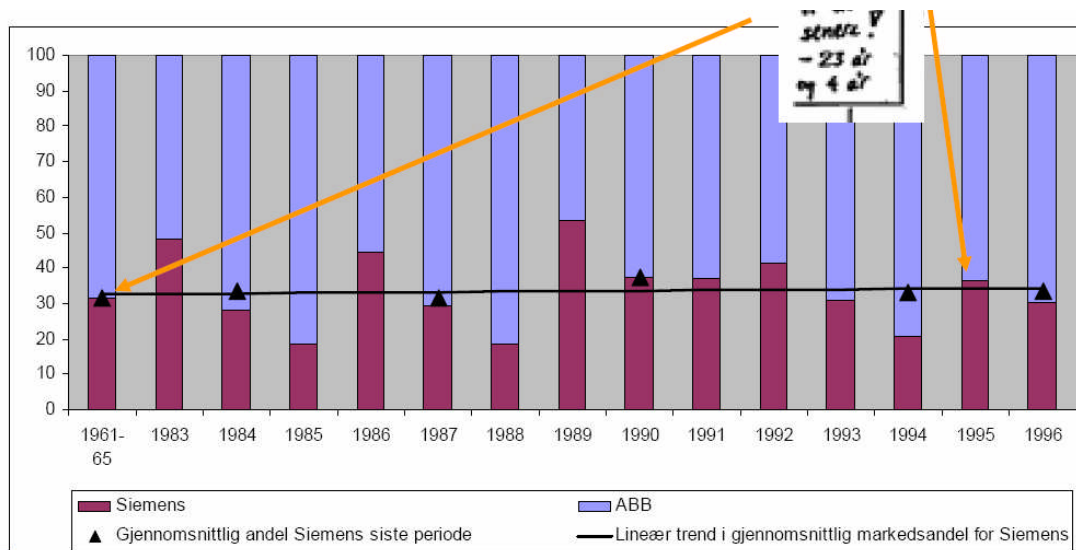


Figure 5. ABB-Siemens case: cartel in action (NHO ledersamling, 14.09.2007).

In this figure the red graphs illustrate the market share of Siemens, and the blue graphs – one of ABB. The triangles show average share for Siemens last periods, while the horizontal line points out the linear trend in average market share for Siemens. As we can see, the two

¹⁰ http://www.konkurransetilsynet.no/iKnowBase/Content/427588/070914_NHO.PDF

companies agreed upon a certain pattern in market sharing over a period of time (23 years and 4 years), which let them keep the same average market shares in total. The case advocates for the theory about collusive bidders that carry out market sharing by alternating years of deliveries to pre-agreed upon buyers.

The illustrated strategy also supports Harrington's (2004) approach about cartel pricing in which he recognizes that in order to avoid detection firms set prices in such a manner that suspicions about coordinating behaviour are not awakened. This way rapidly increasing prices or anomalous price movements are avoided.

- **prices**

Same case further provides an insight on effect on prices (see Figure 6).

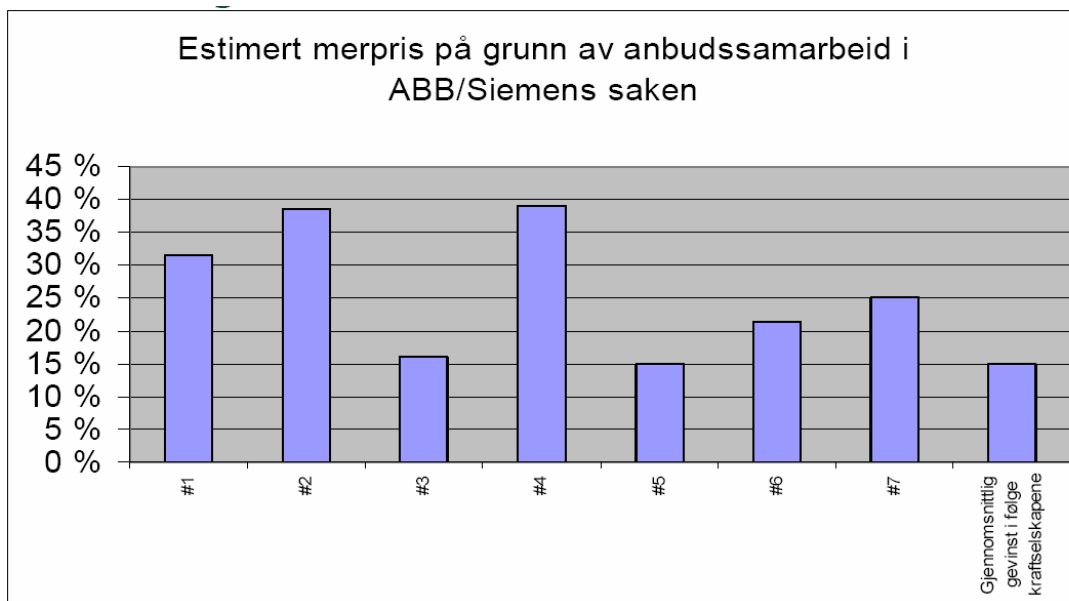


Figure 6. Estimated extra costs due to bid-rigging in ABB-Siemens case (*NHO ledersamling*, 14.09.2007).

The last graph in this figure indicates the average winning of the cartel according to the power companies, and constitutes 15% overcharge.

Generally, the case supports Comanor and Schankerman's (1976) theory about rotating cartel strategy, in which they state that except extreme circumstances where the preferences of smaller firms are dominant, identical bidding arrangements are unlikely to be maintained among colluding firms where their number in industry is small (p. 286).

Despite the disastrous effect of collusive behaviour, many theorists agree that the cartel victims still may take actions to destabilize it (McAfee and McMillan 1992). To understand which actions, it is vitally important to recognize market determinants of cartels in order to see dangers for exposure.

2.2 Market Determinants of Cartel Duration

Levenstein and Suslow (2006) argue that there are two answers on the question of *How do cartels survive?* Both are necessary but neither is sufficient. First, the cartels that survive are located in industries whose exogenous features make collusion easier. Second, cartels that survive organize themselves to address and overcome the problems of coordination, cheating, and entry. In this subsection only market characteristics in which cartels operate will be emphasized.

Thoron (1998) argues that the way in which competition is modelled determines the incentive to cooperate. She cites d'Aspremont et al. (1983) that “a cartel is stable if firms inside the cartel do not find it desirable to exit and firms outside the cartel do not find it desirable to enter” (p. 64). The idea that cartel stability depends crucially upon market power has been voiced by Pindyck in 1979.

2.2.1 Market Power

Market power denotes the degree of discretion of a firm (or a group of firms acting jointly) in affecting price and competitive conditions in a market. This influence is not temporary. Further, it can be either direct or indirect. In the former case, exercise of power is achieved in the marketplace where the firms have control over price and quantities sold. In the latter case, it is achieved through influence over public policy affecting issues of interest for firms, such as price, barriers to entry or trade policy in the larger sense of the phrase (Bourdet 1992).

Bourdet (1992) further continues that each market consists of a certain number of sellers. This number is usually regarded as the main indicator of the intensity of competition. The presence of many sellers characterizes perfect competition. On the contrary, the presence of only one seller (monopoly) or a few sellers (oligopoly) characterizes imperfect competition.

In most textbooks the formation of cartel proces is disposed of with the remark that cartels can be regarded as a special form of monopoly (collective or collusive monopoly) and that ordinary monopoly theory may be applied (Fog p.16). If we are to view cartels as associations of independent firms with monopolistic aims, as, for example, did Robert Liefmann (1927) (referred in Bouwens and Dankers 2005), we need to take a look at the preferred by a cartel conditions.

Monopoly and Oligopoly

Monopoly power is a general term for any case in which an individual economic entity has a large influence on market prices (Støkken and Nylehn 1991).

By definition, the monopolist totally controls the supply of a product that does not have any near substitute. Unlike firms acting under perfect competition, the monopolist is a price maker. He can raise price by restricting output. The absence of substitute products means he does not fear competition from other firms. He will select the output where marginal cost equals marginal revenue. This is the output that maximizes his profits. Any other output, smaller or greater, results in lower profits (Bourdet 1992).

A monopoly “naturally” emerges due to the attributes of the technology for producing certain services, innovation or unique skills (Joskow 2005): “a firm producing a single homogeneous product is a natural monopoly when it is less costly to produce any level of output of this product within a single firm than with two or more firms.” (p. 8) Joskow references Thomas Farrer (1902) who associated natural monopoly with supply and demand characteristics that included (a) the product or service supplied must be essential, (b) the products must be non-storable, (c) the supplier must have a favourable production location. Van Weele (2002) sums up that natural monopolies exist when the entire supply of raw materials or a particular manufacturing process is owned by just one producer or manufacturer, excluding others by means of contracts and patents (e.g. oil concessions). Government monopolies exist when based on special licences which are required from the government or when based on state law (p. 78). The examples of industries based on natural monopoly arguments are electric power, railroads, telephone, gas pipelines, water networks, cable television networks, etc.

Oligopoly is the predominant market form in the real world. It is in particular true for most industrial markets where production can only be carried on economically if conducted in a

fairly large scale. This stems from the nature of technology and cost in industry. Actually, the decline in average cost as output rises implies that only a few firms can produce the total output sold on the market at the lowest average cost. Another factor behind the oligopolistic structure of many industries is the desire of already technically efficient firms to acquire market power through mergers and takeovers (Bourdet 1992).

The simple and in many ways still the most fruitful model of oligopoly starts by following Adam Smith's notion that every industry wishes to organize as if it were a single-firm monopoly (Støkken and Nylehn 1991). The nature of interdependence between oligopolists that wish to collude is the central point when it comes to output and price determination. Joint-profit maximization is reached when oligopolists act together as a monopolist. In such a case, the price/output and social cost outcome is the same as in the monopoly case (Bourdet 1992).

Market Failures vs Competition

In contrast to the reviewed imperfect market situations, in market with perfect competition prices never rise above the marginal cost of production (Sampson 1995).

One of the objections to monopoly is that as the monopolist is not constrained by competitive forces to reduce cost to its lowest possible level, the firm becomes X-inefficient (Leibenstein 1970). This term means that while resources are used to make the product, they are used less productively.

Competition, on the other hand, provides an incentive for firms to perform at their best, producing high-quality goods and services at the cheapest price. Competition encourages entrepreneurial activity and market entry by new firms by rewarding efficient firms and sanctioning inefficient firms. In ideal market conditions firms react flexibly and quickly to changing market demands and the relentless entry of new firms. The entry of new firms provides the necessary stimulus for adjustment, while the ability of firms to adjust, and the speed at which they do so, are a measure of their efficiency and, by extension, their competitiveness (UNCTAD 2002, p.4).

Baumol's et al. (1982), in their concept of contestable markets argue that the market need not be a model of perfect competition if entry and exit are free to the industry (p.4).

When competitive conditions prevail in a market, individual firms cannot depart from competitive behaviour and competitive prices for fear of losing their customers and of being driven out of business. Market power does not exist in such cases or, at least, does not last. Competition is thus the main restriction on market power (Bourdet 1992).

The fact that cartels have less control than monopolies, where only one company manipulates supply, means that they can be undermined if competition is employed even more. We further examine the characteristics of industries where formal collusion is acknowledged to have occurred.

2.2.2 Hallmarks of Industries exposed to Cartels

Different economists use different approaches to describe industries exposed to cartels. Major characteristics can, for example, be presented under Levenstein og Suslow's (2006) sources of cartel duration:

1 Number of Firms and Industry Concentration

The economists argue that cartel duration is negatively related to the number of firms in the cartel and in the industry. This is easily explained with the fact that costs related to coordination of behaviour, monitoring participants who want to deter and blocking new entries are higher with larger amount of competitors.

Concentration provides information on the number and the size distribution of firms. For example, a high level of concentration means that a few firms account for the bulk of market supply (Bourdet 1992). Concentration is considered the most important factor in determining market power, as it measures the level of actual competition in a market. Attempts to exercise market power are likely to be more successful in industries that are more concentrated; in such industries it is also easier to participants to increase gains from collusion.

2 Large Customers

Levenstein og Suslow's (2006) refer to Stigler (1964) who argued that large customers can undermine cartel stability. Large corporate customers have both knowledge and bargaining power on their side when ordering inputs. But there are other cases in which customers were intimately involved in stabilizing a cartel, providing information and punishment

mechanisms not otherwise available, and sharing, indirectly, in cartel rents (Granitz and Klein 1996, Levenstein 1993a).

Large firms may be consciously willing to tolerate higher input prices. As some of these downstream industries may be sufficiently oligopolistic themselves, it may be possible for them to pass along higher input prices to consumers, decreasing any incentive they might otherwise have to disrupt the upstream cartel (Levenstein og Suslow 2006). Customer concentration may also have the cartel strengthening effect, because higher selling prices can be used by large firms in order to gain advantage over smaller competitors

3 Nature of Demand

Collusion is more prevalent in industries with relatively inelastic demand, as the potential profits arising from fixing prices are greater (Pindyck 1979). When demand is relatively inelastic at the pre-cartel price increased revenues at lower levels of output are possible (Bouwens and Dankers 2005). Eckbo (1976) found that cartels are able to raise price substantially only if demand is sufficiently inelastic and there are few short-term substitutes (p. 42).

Cyclical fluctuations of demand, to the extent that they are predicted or predictable, either do not appear to undermine well-working cartels, but rapid industry growth and unexpected fluctuations in demand do (Levenstein og Suslow 2006).

4 Cartel Organization and Cartel Learning

Levenstein og Suslow (2006) finalize that in order to function well (meaning to identify a collusive equilibrium, coordinate on it, and then continuously update as demand and costs fluctuate), the industry has to provide conditions for learning over time.

Sørgard (1997), on the other hand, looks at conditions that help suppliers succeed in price-fixing:

1) Patient companies

Cartel participants must be *patient* in the meaning of valuing future profits. If short-sighted, participants will have an incentive to deviate from the agreed behaviour.

2) Short time length

In order to successfully coordinate pricing *time period must be short*. Under this condition the participants will 1) quickly discover the deviating part, and 2) have the opportunity to react quickly.

3) Hard competition

Sørgard argues that there is a potential for coordinated price-setting if *it is expected a hard competition after an eventual deviation*. The large loss as a result of deviation will in such case discourage the companies from infringing on the agreed price. In the markets where potential for hard competition is biggest, there are biggest grounds to believe that companies succeed by avoiding this hard competition.

4) Limited amount of companies in an industry

This criterion is already commented at Levenstein og Suslow's (2006) overview. Sørgard looks specifically on ability of sustaining of a monopolistic price. He argues that the reason it is easier to do it in a market with *few companies* than in a market with many companies is because in a market with many players, each of them will have an incentive to break out from the agreement and profit individually. This can give small firms a considerable increase in market share in the short time.

5) High barriers to entry

Markets with many players usually have low barriers for entry. As soon as the existing companies set prices to a certain level via coordinated price setting practices, it will attract newcomers. The existence of barriers to entry is therefore an important condition for that the established cartel members to succeed.

The last two points are in accordance with Fear's (2006) argument (based on observation of Mirow and Maurer 1982: 11-35) that cartels appear most strongly in those industries defined by scale and scope economies in industries saddled with high fixed costs.

El-industry in Norway

The supplier market to the el-industry as any industrial market is represented by the two types of suppliers (Brynhildsvoll and Abrahamsen 2002), those who deliver products within

general area of usage (for example, office furniture and requisites) and those who supply industry-specific products and services. The latter type of supply due its specifics is a focus of this thesis.

In the industry-specific supplier market all the listed cartel determining market factors are present.

First and foremost, limited amount of producers accounts for the *high level of concentration* in the selling industry. As the production is characterized by high fixed costs, this high concentration level is heavily supported by *high barriers to entry*.

Second, the industry-specific products have no substitutes for buyers. Coupled with the fact that all existing solutions have been delivered by the same suppliers, it makes the *demand* both *predictable* and *very inelastic*, because despite of either positive or negative decisions regarding investments into new procurement projects, service, maintenance and replacement on the existing plants have to be carried out no matter what.

Third, the industry provides *conditions for learning over time*, because tendering procedures open opportunities for cartel participants to learn about prices of each other, detect defections and coordinate behaviour over time.

Finally, presence of *large customers* who might (consciously or unconsciously) tolerate higher input prices in the industry is at place. Whether they do that and if so, why would they behave like that is what this thesis is trying to find out. If such behaviour is at place, it means that the buyers themselves strengthen entry barriers by creating market limitations that make it difficult for new players to come in and provide more competition. This way the current suppliers would be given an opportunity to have a technology-based artificial monopoly on their products with related services, a monopoly that differs from the conditions in which the buyers themselves as a legal monopoly have to operate. The main distinction of monopolies in private markets (in Norway as well as in Europe) is that it is not regulated by government, which means that 'competitors' can demand whatever prices they want. More about the role of governmental policy in an industrial organization with specific focus on Norway is in the next subsection.

2.3 Industrial organization

This chapter will provide a look at the *structure-conduct-performance paradigm* (SPPP) that introduces the role of the competition policy in regulating the processes within an industry. The bigger focus will be taken on the Competition Law in Norway (limited to Chapter § 10 about price-fixing) and role of the Norwegian Competition Authority that guard interests of competition.

2.3.1 The Paradigm of Industrial Organization

As the action in real economies lies between two extremes of the microeconomic theory, monopoly and perfect competition, Viscusi et al (2005) present a general approach to the economic analysis of industrial markets developed by economists at Harvard University. It is based on three key concepts: (1) structure, (2) conduct (or behaviour), and (3) performance.

The causal relationship between these three concepts is as follows: Structure (number of sellers, ease of entry, etc.) determines firm conduct (pricing, advertising, etc.), which then determines market performance (efficiency, technical progress). The approach is known as the *structure-conduct-performance paradigm* (SPPP), and is depicted in figure 7.

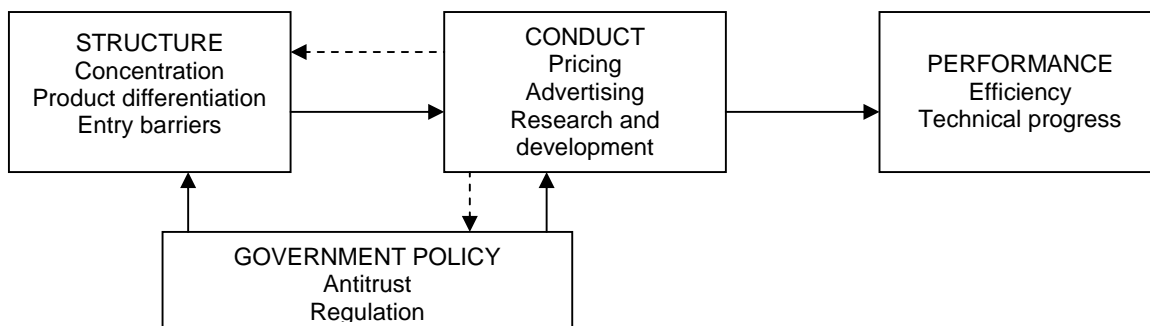


Figure 7. The Structure-Conduct-Performance Paradigm of Industrial Organization (Source: Viscusi et al 2005)

In the figure, the dashed arrow between the conduct and structure blocks indicates that conduct “feeds back” to change structure. There are number of ways in which the behaviour of existing firms in a market can affect future market structure. For example, through investing in research and development, a firm can lower its costs to a point where it can force its competitors out of the market. Alternatively, firms can influence market structure by affecting the decisions of potential entrants to enter through the strategic manipulation of price or capital. The simplest way in which conduct affects structure is through mergers (Viscusi et al 2005).

Although the SCPP is of limited use, all the categories remain useful in organizing knowledge about an industry. An important element in this model is the governmental impact in industrial organization processes. In the figure, the government policy block contains the two major categories of policy: competition policy (or in American manner, antitrust) and regulation. The arrows show that by receiving signals of market behaviour and taking actions that affect both the market structure and the conduct of its players in order to improve the industry's economic performance. For example, an antitrust decision might lead to the dissolution of a monopoly into a number of independent sellers, which would directly affect concentration. Alternatively, antitrust laws against price fixing influence the collusive behaviour in the industry.

Though, the role of government in correction of "market failures" is huge, it is a real challenge to detect anticompetitive behaviour. Due to the importance of the competition policy in market functioning, we take a closer look at its goals (general intentions) and objectives (specific measures).

2.3.2 Competition Policy

A large number of governments have introduced national *competition laws*. Generally these refer to legislation, judicial decisions and regulations that relate either to agreements between firms that restrict competition or to the abuse of a dominant position by a firm or firms merging together. The rules established by these laws are intended to ensure that the competitive process is not hindered through the creation of dominance that results from forms of regulation or agreements between competitors that restrict competition (Maskus and Lahouel 2000). The term *competition policy* has a broader meaning, and refers to a set of measures and instruments used by governments that determine the overall conditions of competition that are likely to be met in specific markets. As such, competition law is a subset of competition policy. The broader set of instruments influencing competition policy includes privatisation, deregulation, foreign investment policy and subsidies. Viewed in this way domestic competition policy is also affected by regional and international agreements (Cook 2001, p. 11).

What is the goal of competition policy?

As competition law is based on two distinct but related concepts, market power and dominance, Sampson (1995) points out several objectives of the competition policy. The

first one is the allocative and productive efficiencies through *reducing costs as far as possible*. As the monopolist is not constrained by competitive forces to reduce cost to its lowest possible level, the firm becomes X-inefficient (Clarke 1940). It means that while resources are used to make the right product, they are used less productively. With competition policy firms should be forced to ensure optimal allocation of resources provided that the markets in which they operate are contestable. The important feature here is that entry and exit are free to the industry and the market need not be a model of perfect competition. The combined effect of both allocative and productive efficiencies is overall maximization of the society's wealth. A second objective of competition policy is *safeguarding individuals against the power of monopolist* or anti-competitive agreements. In so doing, competition law can prevent the transfer of wealth to the monopolist at the expense of the consumer.

According to the SPCC model, competition legislation impacts on business and commercial life in all the three areas. Conduct regulation relates to prohibition of conduct that restrains trade, lessens competition or lessens the abuse of market power. Competition law as it relates to economic structure, impacts on corporate transactions - mergers, takeovers, joint ventures and asset transfers - when such transactions seek to weaken the independence of competing firms and raise concentration in economic markets to undesirable levels. Intervention in economic performance comes about when the Government seeks to correct monopoly situations or restraint of trade by controlling prices or outputs (Sampson 1995, p.5).

All in all, competition policy is aimed to protect producers and consumers from anti-competitive practices which raise costs and prices and reduce production, while at the same time promoting transparency and enhancing the attractiveness of an economy to foreign investment (UNTAD 2002, p.11). Though, as the national competition laws are unlike in different countries, the legislation objectives also differ (for example, there are big differences in legislation of the USA and the EU).

2.3.3 Competition law in Norway (Konkurranseloven § 10)

Competition law has emerged as an issue for the World Trade Organisation (WTO) largely because exporting firms in high-income countries argued that anti-competitive practices of competitors in foreign markets hindered their ability to penetrate those markets (Cook 2001 p. 21).

Since Norway is a part of the European Economic Area (EEA) through its membership in EFTA, the rules and regulations in the EEA have been implemented into Norwegian legislation through special Acts and regulations. The Competition Act was introduced in Norway 1993 and has been through the years harmonized with EU competition rules regarding prohibitions against cartels and abuse of dominance. The general purpose of the Act is to encourage competition in order to contribute to the efficient use of resources, with special consideration to consumer interests.¹¹

The Competition Act of 2004, Chapter 3, Section (§) 10 (corresponds to EEA 53/EU 81) forbids all forms of collusion that has its purpose to hinder, reduce or twist competition limits competition (25.10.2006). Following forms of competition-limiting activities are forbidden: “all agreements between undertakings, decisions by associations of undertakings and concerted practices which have as their object or effect the prevention, restriction or distortion of competition, and in particular those which:

- a. directly or indirectly fix purchase or selling prices or any trading conditions;
- b. limit or control production, markets, technical development, or investment;
- c. share markets or sources of supply;
- d. apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;
- e. make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.”¹²

The prohibition is directed towards collaboration between independent firms. The form *undertaking* is defined in Section 2 of the Act as “any private or public entity that exercises commercial activities”. Collaboration that happens within the same economical entity is not under the law’s scope.

¹¹ <http://www.konkurransetilsynet.no/en/legislation/More-about-competition-act/>

¹² <http://www.konkurransetilsynet.no/en/legislation/The-Competition-Act-of-2004/>

Collaboration

The prohibition in § 10 regards, first, competition-limiting agreements between one or more firms. The form of such agreement does not matter, and it is neither a requirement for it to have a juridical power. Further, both, written and oral agreements are regarded.

Second, the prohibition regards competition-limiting decisions from unions of firms, typically an industry representing organization. It can, for example, be about setting standard contract terms that limits competition.

Third, the prohibition regards any competition limiting coordinated behaviour. With such behaviour is meant that without any agreement, the firm behaves in a certain manner. For example, when a firm is participating in meetings with a certain cartel participants without having an active agreement themselves, such behaviour is also laws violation.

In order to talk about a coordinated behaviour, there has to be some form of contact between the involved firms. One-sided market adjustment is therefore not forbidden by the regulation.

Limitation of competition

Only collaboration within same trade segment (horizontal cooperation) and between enterprises which operates on different levels of the trade chain (vertical cooperation) is considered illegal.¹³ Horizontal collaboration is considered more competition harming than vertical one, if it is cooperation between the factual or potential competitors.

Collaboration with competition-limiting purposes is forbidden without the requirement to prove that it has achieved the intended effect. For example, it regards following types of horizontal agreements:

- collaboration on prices determining
- market sharing, either geographically or by customers, different types of products etc.
- limitation of production or sale

Example of vertical collaboration with competition-limiting purposes:

¹³ here and further in this subsection the information is taken from the sheets of paper on the topic in Norwegian: <http://www.konkurransetilsynet.no/no/Konkurranseregler/Konkurranseloven/>

- determining of binding minimal prices for negotiators

If collaboration does not have competition-limiting purpose, possible competition-limiting effects of it should be analysed. It has to be evaluated whether it is possible that such an effects shall occur. The firm's position in the market, the type and length of the limitation and the market structure will have importance in this analysis.

Examples of collaboration cases that have to be analysed in detail can be competition ban, agreements about exclusive delivery and purchase obligations, collaboration on purchasing, research and development agreements. It is supposed that the effect of such cooperation is limiting the competition on the market of interest (more detailed guidelines for the analysis of competition-limiting effects are to be found in EFTA's supervision authorities).

Requirement of significance

In order for a collaboration to be prohibited according to the Act § 10, it has to limit competition noticeably. This requirement does not appear directly from the text of the law, but follows by practice about the according regulations in the EU Treaty Section 81 and the EEA Agreement Section 53.

Invalidity and compensation

Agreements that go against the prohibition in § 10 are not lawful. The business and people that suffered from the illegal behaviour can require compensation provided that the listed requirements are at place (exclusions are not to be reviewed here).

Norwegian Competition Authority (Konkurransetilsynet)

Konkurransetilsynet is the Norwegian Competition Authority's (NCA). Its main task is to enforce competition law. The Authority employs in excess of 100 employees and has its head office in Bergen. In its daily work, the NCA puts great emphasis on providing information and the correct incentives to the market players, benefiting ultimately, the consumers, businesses in general, industry and the governmental administrative sector.¹⁴ The Competition Authority is given powers to issue administrative fines for violations of the prohibitions of the Act.

¹⁴ <http://www.konkurransetilsynet.no/en/about/>

Sanctions

With violation of the Competition Act § 10 the NCA has various types of reaction measures to choose from. It can fine a breach penalty/ fine up to 10 percent of the firm's turnover according to the Act's § 29 (the penalties are harmonized against the level in the EU (NHO ledersamling, 14.09.2007). Further it can report the violation to the Norwegian National Authority for Investigation and/ or Prosecution of Economic and Environmental Crime (Økokrim) for criminal prosecution according to the Act's § 30. Infringements of § 10 are penalized with fines or serve 3 years in prison. With especially aggravating circumstances the period may be extended to 6 years. With less serious infringements Konkurransetilsynet can order discontinuance of the illegal behaviour according to the Act's § 12. The order can be imposed in combination with a breach penalty/ fine. Any possible winnings that were the outcome of the laws violation are confiscated (25.10.2006).

It can also be relevant with blacklisting of the cartel participants (NHO ledersamling, 14.09.2007). The NCA is planning to adjust the criteria in such a way that the firms taken for competition crime will be automatically locked out for a certain number of years. Further, those companies that will be included will have to show to documented routines and internal guidelines that secure that the company's leadership and employees act in accordance with competition legislation. Such routines can, for example, make it clear what both the leadership and the employees can and what they cannot talk about when they in unlike contexts meet competitors, among others in industry associations (Sunnevåg, Konkurransenytt 4/2007).

Fines and leniency

Companies or individuals that cooperate with investigators may have their fines or punishment reduced according to a new leniency program.¹⁵ This program, identically with the EU practice, let those companies that open their cards and cooperate in investigations, spare themselves from fines completely (Konkurransenytt 4/2007). The threat of large fines against companies for cartel conduct provides incentives for firms to defect from the cartel and benefit from leniency (OECD 2002).

¹⁵ ibid

As the cartels are globalized, the NCA works in a close cooperation with other countries (25.10.2006).

2.4 Industrial Buying Behaviour

The aim of this theoretical subsection is to present processes and procedures that on the other hand determine the (industrial) buyer behaviour and how these processes are implemented in the el-industry. Main considerations in Administrative regulation in the supply sectors (water and energy supply, transport and post services (Forskrift om innkjøpsregler i forsyningssektorene (vann- og energiforsyning, transport og posttjenester) and the Procurement Act (Lov om offentlige anskaffelser) that regulate the industry will be presented. The Complaints Board for Public Procurements (KOFA) is the governmental organ that protects suppliers from competition-limiting practices on the buyers' side. The subsection will round up introducing systems used in the industry (Sellihca, Doffin/TED) and their role in the procurement process in this business sector.

2.4.1 Purchasing Process Approach

An expert in buying processes in organizations, Arjan J. van Weele's (2002), argues that a major difference between the consumer sector and the industrial sector is related to the **interaction** and **(mutual) interdependency** between buyer and seller. Unlike the consumer sector, business-to-business markets are often characterized by long-lasting relationships between the buying and the selling parties. As a consequence, business-to-business marketers must regard their markets as a network of relationships. Their marketing strategies are aimed at extending, investing in and continuously maintaining these networks (p. 30).

The term *procurement* relates to function of purchasing inputs used in the firm's value chain. It includes all activities required in order to get the product from the supplier to its final destination. It encompasses the purchasing function, stores, traffic and transportation, incoming inspection, and quality control and assurance (p. 16). Within an organization, the purchasing decision-making process is complex and obscure due to that often various disciplines and stakeholders are involved, with varying interests and different views and opinions about what should be done. When ill structured, these processes can easily end up in considerable loss of time and budget overruns (Van Weele 2002).

The purchasing process

The purchasing process model depicted in Figure X shows how the different purchasing activities are interrelated within an organization. Bryndhildsvoll and Abrahamsen (2002) differentiate 14 steps of the purchasing process, which all are in accordance with the model:

1. Defining needs.

Internal customers within an organization initiate the purchasing process by identifying what type of solution is needed and minimum requirements. Automatic proposals from a storage system and prognoses are usually the basis for purchasing plans. The purchaser together with the internal customer has to decide how they should proceed with the purchase, as it will have consequences both back and forth the value chain in the company. Such things as volume of the purchase, storage costs etc. and their total effect within the company must be evaluated.

2. Purchasing/ developing-analysis.

Clarify whether the need can be covered internally or whether there is a need to proceed with the purchase in the external market (for example, producing spare parts). Such decisions as moving parts of internally added value to external suppliers can over time change the organization and its strategy.

3. Purchasing criteria.

Decide which quality and quantity criteria that are valid. The purchaser has to decide on after which criteria the incoming offers will later be evaluated. For example, competence, experience and total costs of delivery. These criteria will be stated in the documents that will be made available for relevant suppliers for submission of correctly developed offers.

4. Procurement procedure.

Decide on which way the procurement should be done. The procedure will steer the process. For example, the European Commission¹⁶ differs between the following most common procedures (or competition forms) in public procurement:

- *Direct procurements* – there the principal has flexibility when it comes to how the competition should be carried out, but must comply with the requirements pursuant to Chapter I of the Regulations relating to Public Procurement. Is an therefore an exception procedure that has to be well documented.
- *Open competitive tendering* – this procedure allows all interested suppliers to submit tenders. There is no pre-qualification.
- *Limited competitive tendering* – this procedure allows only the suppliers invited by the principal to submit tenders. First pre-qualification is carried out, where all interested suppliers may request to participate in the competition with documentation showing that they are qualified.
- *Competitive dialogue* – in cases involving particularly complex procurements where it is impossible for the principal to describe what is to be procured, the competitive dialogue can be used.
- *Competition with negotiation* – the procurement procedure allows the principal to negotiate with suppliers about all aspect of the tenders

5. Specifications.

It is a description of the delivery that entails that supplier delivers an offer that covers customer's need (Håndbok). Specifications have a very big importance because they not only determine terms for the purchase, but they also determine how the organization manages to use the supplier market (Bryndhildsvoll and Abrahamsen 2002, p. 109). Following types of specifications are differentiated:

- a *detailed* specification – describes the product down to the minimum component, and leaves little space to the supplier to use own competence and experience. If a

¹⁶ http://ec.europa.eu/youreurope/business/profitting-from-eu-market/benefiting-from-public-contracts/norway/index_en.htm

purchaser negotiates on the basis of such a specification, the only dimension is usually left to talk about is price.

The specialists' opinion is that other specifications should be used instead:

- a *standard* specification – where standards are ready developed in an industry.
- a *functional* or performance-based specification – where supplier can get hold of cost effective solutions that purchaser possibly didn't know of.

Use of these specifications leads to that purchasers don't become locked on one certain supplier but have many alternatives and dimensions to negotiate about with different suppliers. It is a fact that on sales courses suppliers are being taught to take contact with purchasers early in the purchase process in order to affect choice of specifications, and, as result, choice of suppliers. Therefore, the cross-functional purchasing group in the organization should evaluate different alternatives of specifications (Bryndhildsvoll and Abrahamsen 2002).

6. Supplier market.

This step implies searching the market for relevant suppliers. The suppliers can be producers, agents, wholesalers or even retailers, which should be evaluated for relevance to a certain purchase. Updating list of suppliers in different markets is one of the most central tasks for the organization's purchasing function (Bryndhildsvoll and Abrahamsen 2002).

7. Sending out a *request for quotation* (or RFQ, a more precise definition will be given in the next subsection).

This step is about sending out documents with description of needs, specifications and requirements to relevant suppliers. Economists agree that a company should send RFQs to so many suppliers as possible in order to receive submitted a competitive offer. The recommended minimum requirement of bidders in a competition is three, of which one should preferably be a new unknown supplier.

8. Evaluation.

On this stage, analysis of the incoming offers, comparison and evaluation according to the earlier stated criteria is taken. The result is often choice of suppliers for possible negotiations are taken.

9. Negotiations with the chosen suppliers.

This step is not always necessary, and it also depends on the type of the procurement procedure chosen early in the purchasing process. Negotiation competition is one of the major competences a purchaser must have, as the other contractor party (seller) is usually well trained in this field, and have an incentives to achieve own purposes in form of a bonus-based wage. Though negotiations are time and cost-demanding, this stage is necessary used when risks and insecurity are involved.

10. Contract.

On this stage a formal confirmation of the relationship with the supplier is produced (in which specification of delivery, time limits, amounts, and responsible parties for the contract from both, the supplier and the employer, etc. are registered).

11. Follow up.

On this stage purchasers secure correct delivery within given delivery deadlines, while technical function controls technical performance of products.

12. Reception.

Control, installation and accept of the received delivery according to placed orders.

13. Payment.

Approvement and control of invoices are carried out.

14. Guarantee follow up.

This is the last activity in the procurement process with purpose of control and regulation of compensation in case of deviations.

According to van Weel, the added **value of the professional purchaser** lies in his ability to act as a facilitator for the entire cycle, which among other things includes (pp. 32-33):

- a) Being involved in the purchasing (especially investments) projects at an early stage.
- b) Preparing a list of approved suppliers in cooperation with the internal customer, and after that drawing up requests for quotation (RFQs) and preparing their evaluation together with the user, as well as selecting a supplier by mutual agreement.
- c) Preparing and carrying out the contract negotiations as well as drawing up and reviewing the terms and conditions of the contract.
- d) Setting up requisitioning and ordering routines in such a way that the users can place orders themselves, within the terms and conditions established with the suppliers.
- e) In case orders cannot be placed by users themselves, take care of orderhandling.
- f) Expedition or follow-up of outstanding orders and monitoring outstanding financial obligations.
- g) Follow up and evaluation in terms of settling claims, evaluating supplier performance and maintaining and keeping up to date the relevant supplier documentation.

In the real world, organizational purchasing process deviates from the ideal model. Observation of numerous companies and institutions over many years has demonstrated that the purchasing process can be obstructed by the following situations (pp. 35-36):

- *Supplier or brand specifications.* Often defined 'towards' a particular supplier. This practice seriously limits the buyer's commercial latitude (in terms of negotiations) with the supplier – who is in many cases aware of the selection of his product.
- *Inadequate supplier selection.* Selecting a supplier is one of the most important decisions in the purchasing process, particularly if the products require many years of maintenance and service (which is often the very case in power business). Failure to check the supplier's references can produce very unpleasant surprises.

- *Insufficient contracting expertise.* Misunderstandings about the handling of problems can be prevented by means of a solid contract, editing of which is better left to the buyer.
- *Too much emphasis on price.* Buying decisions need to be based upon total-cost-of-ownership (TCO) models where the initial purchase of the equipment is balanced against the life-of-type costs (including warranties and maintenance services from the original manufacturer).
- *Administrative organization.* Sometimes there are no clear procedures with regard to procurement or authorization of orders, which can lead to random ordering by everybody in organization. This results in lots of extra work in the inspection of both deliveries and invoices, with ultimate possible loss in form of payment without any kind of check.

The role of the purchasing department in the purchasing process

The tasks, responsibilities and competence of the purchasing department vary between organizations. Purchasing departments in large companies usually operate more professionally than in smaller ones, and very small companies usually dispense with having a specialist explicitly in charge of the purchasing task. The internal structure of the organization generally governs the way in which the purchasing decisions are made (p.40).

In many companies, various goods and services are bought without intervention of the purchasing department, in opposite many other disciplines within the company are actively engaged in buying products and services. This is the reason why large savings usually can be realized.

Purchasing function has four dimensions:

- a **technical dimension**, which concerns the functionality, specifications and quality of the purchased products;
- a **commercial dimension**, related to managing the relationship with the suppliers and the contractual conditions which must be negotiated and arranged;

- a **logistics dimension**, which concerns all activities related to optimizing the incoming materials flow from the supplier up to the point where the materials are needed and actually consumed;
- an **administrative dimension**, relating to the efficient orderhandling, expediting and follow up and handling of invoices (pp. 38-39).

A conducted a survey Van Weele (2002) has shown that in practice the involvement of the purchasing department in the initial stage of the purchasing process is low. Its role becomes more important when quotations must be solicited; however, when these quotations are evaluated, involvement decreases. Purchasing appears to be most involved in the operational activities of the purchasing process. The *risks* involved with the administrative orientation of purchasing departments are as follows:

- it may prevent buyers from spending sufficient time on their tactical and more strategic purchasing tasks;
- it may prevent development of a more strategic vision on purchasing and supply management in the company.

Although organizational purchasing processes may vary, clear stages (see Figure 8) are still recognized. Effective purchasing decision making requires a cross-functional approach. The key issue is to direct and guide the efforts of the various organizational parties involved in such a way, that an optimal result is achieved for the organization. The professional buyer can make a major contribution here (p.49).

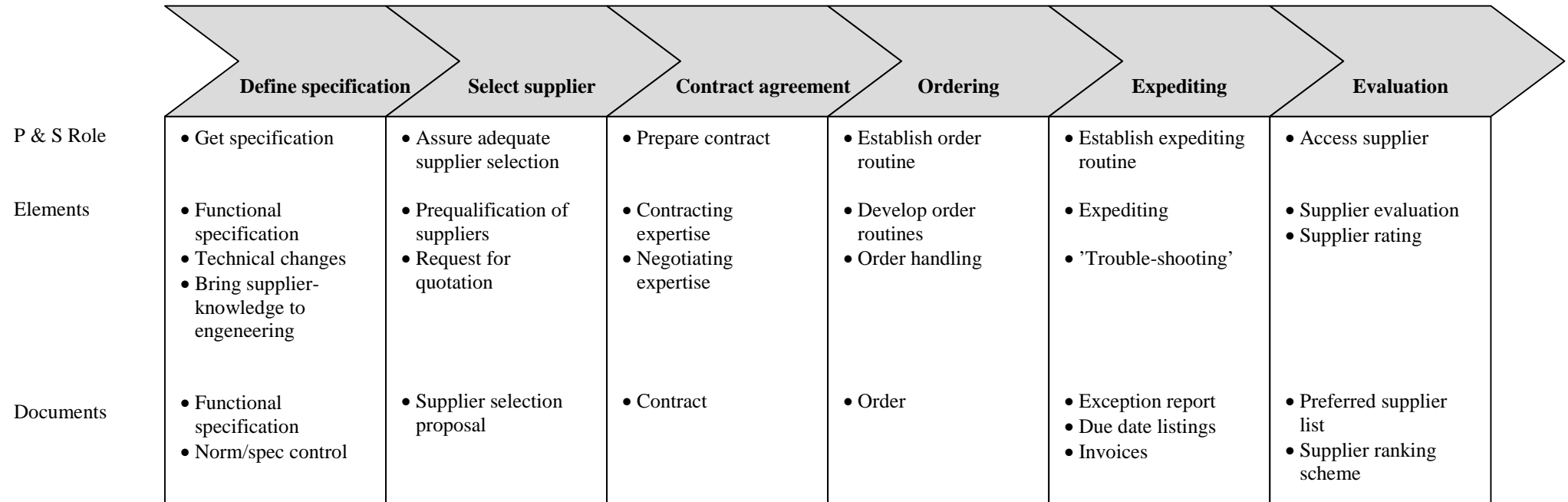


Figure 8. Purchasing process approach (Van Weele 2002)

2.4.2 The Buying Process in the EI-industry in Norway

Power utility business is a part of Norwegian public sector. Through the European Economic Area and WTO agreements Norway is obliged to follow definite procedures with public procurements above certain threshold values.¹⁷ Before the procedures are introduced, some often used definitions are explained in more detail:

Tendering is the offer made by a tenderer when he receives an invitation to tender for the supply of goods and services. **An invitation to tender** is an acquisition process which allows all (open invitation to tender) or invited (restricted invitation to tender) contractors (tenderers/ bidders) to submit a tender for a particular purchase. The process should increase market competition between the tenderers and it is assumed that each tenderer is acting independently. It should be noted that a tendering in this connection relates to every acquisition process. Tendering is not limited to formal tendering processes but encompasses also informal forms of invitation to tender.¹⁸

A **request for information (RFI)** is a document which is issued to potential suppliers to allow them to take part in an "invitation to tender" process.¹⁹ The purpose of this business process is to collect written information about the capabilities of various suppliers (Wikipedia).

A **request for quotation (RFQ)** is a document issued when an organization wants to buy something and chooses to make the specifications available to many other companies so they can submit competitive bids.²⁰ Therefore, the purpose of this business process is to invite suppliers into a bidding process to bid on specific products or services (Wikipedia).

The term **public procurement** is used about purchases made for the state, county and municipal authorities and agencies. Such agencies may be municipal enterprises, state enterprises or other institutions or enterprises generally funded by public authorities or serving the needs of the general public. Public procurements can be divided into building and construction, goods, services and information and communication technology (ICT). In

¹⁷ Ministry of government administration and reform
<http://www.regjeringen.no/en/dep/fad/Documents/Handbooks-and-brochures/2006/veileder-til-reglene-om-offentlige-anska/veileder-til-reglene-om-offentlige-anska.html?id=476384>

¹⁸ Guidance on Tendering and Project Agreement provided by Norwegian Competition Authority (August, 2008):
<http://www.konkurransetilsynet.no/en/legislation/Fact-Sheet-Guidance-on-Tendering-and-Project-Agreements/>

¹⁹ <http://www.method123.com/request-for-information.php>

²⁰ By Reh, F. John, Management Guide: <http://management.about.com/cs/marketingsales/g/req4quot.htm>

ICT and building and construction, procurements may comprise goods and services. **Procurement of goods** is the field where the principal's purchasing managers are involved most and have the greatest influence on the procurement process.²¹

The purchasing process in the el-industry goes according to the model depicted in Figure X and all the 14 steps described by Bryndhildsvoll and Abrahamsen (2002). As the industry is regulated by Public Procurement Act and Regulations pertained to public procurement in supply sector, the degree of freedom on different stages of large procurements may somewhat vary from what is described in the theory.

The purchasing function in the supply sector is organized with the principle of cross-functionality and dualism, in which both commercial and technical dimensions in procurement are present. While the commercial executives are supposed to manage the relationship with the suppliers and the contractual conditions, the technical side is represented by various specialists that come from internal customers.

According to § 5-1 of Regulations, the allowed procurement procedures are *open competitive tendering* or *limited competitive tendering* or *competition with negotiations*.

For products and services, the EEA threshold value (from 01.03.2010) constitutes 3,2 mil NOK (Regulations § 2 - 3 (1) a). For these type of procurements part III of Regulations is valid. Legislation differs for procurements below and above EEA threshold value in order to help sustain competition in more strategic markets.

Public Procurement Act (Lov om offentlige anskaffelser)

The fundamental requirements (§5) in the Public Procurement Act are as follows²²:

- An employer shall act in accordance with good business practice, secure high business ethical standard in the internal treatment of cases, and secure an *equal treatment* of suppliers.
- A procurement shall as long as possible be based on *competition*.

²¹ http://ec.europa.eu/youreurope/business/profitting-from-eu-market/benefiting-from-public-contracts/norway/index_en.htm

²² <http://www.lovdata.no/all/tl-19990716-069-0.html#5>

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- An employer shall secure that predictability, transparency and checkability are attended through the procurement process
 - Choice of qualified tenderers and entering into contracts shall happen on basis of objective and non-discriminating criteria
 - An employer shall not:
 - a. discriminate between suppliers on the basis of nationality,
 - b. use standards and technical specifications as a measure to hinder competition, or
 - c. part up a planned purchase with purpose to avoid application of this law.

Violation of these rules as well as other requirements (not overviewed here) of the Act and the pertaining Regulations can have serious **consequences** for buyers. According to the EU-directive contracts can be declared null and void if entered against the laws. The intention is to strengthen the opportunity for tenderers to complain about the process of procurement and thus secure that the assignment goes to the supplier who delivered the best offer (bid). Contracts can also be declared null and void if they are a result of a direct procurement. In such cases the competition must be carried out afresh, unless some other strong considerations speak against it. If that is the case, other sanctions may be used, like fines or shortening the length of the contract (Konkurransenytt, 4/2007). Compensation for negative contract interest must also be paid out.

Norwegian Complaints Board for Public Procurements (KOFA)

Duty of the Norwegian Complaints Board for Public Procurement (KOFA) is to handle complaints of violations of the law on public procurement and relating regulations.

The Board consists of 10 members chosen by the government. Its secretariat, consisting of 9 lawyers, is administratively subordinated the Norwegian Competitive Authority.

KOFA's statements are advisory, but they make grounds in the very most cases. The Board's authority may be described as follows (KOFA's presentation in BKK, 23.04.2010):

- provide advisory statements about whether the laws were violated
- state whether there are bases to require compensations or not
- impose fines up to 15% of the contractual value if the terms are fulfilled

From the 1st of January 2007 KOFA has the authority to impose fines with illegal direct procurements.²³ According to KOFA, the amount of complaints regarding illegal direct procurements doubled since 2007. The largest fine ever imposed was 42 mil NOK (KOFA's presentation in BKK, 23.04.2010).

A new directive (in hearing in Norway 20.08.2010) among other propositions (like, change in quarantine period before entering into a contract, lawsuit deadlines etc.) suggests to move KOFA's authority to impose fines **directly to** the Norwegian **courts** (KOFA's presentation in BKK, 23.04.2010). Such drastic changes, if approved, will not only result in even more strengthened requirements to employers in the supply sector, but will also increase the exposure and risks for the suppliers participating in tenders.²⁴

Sellihca - Prequalification Order

The second step in the buying process – supplier selection – in the el-industry is coordinated by prequalification order, Sellihca.

Sellihca - Nordic Utility Pre-qualification System – is a joint qualification system for suppliers to utility companies in Nordic region (Denmark, Finland, Iceland, Norway and Sweden). The participating organisations use the system as a joint vendor database in which they select suppliers when buying goods and services based on the provided information.

In the limited tender procedure, the employer undertakes a choice of suppliers on the basis of predetermined qualification requirements among those who after invitation to tender stated their interest in participating in the competition. Such a qualification for participating in tender is indicated as *prequalification*. The prequalification is based on objective and not discriminating selection requirements (*qualification requirements*), for example

²³ <http://www.konkurransetsynet.no/no/om/kofa/>

²⁴ DLA Piper, an international legal practice at www.dlapiper.com

requirements to economic solidity, sufficient experience, reference projects, staff. The employer can set the upper limit of participants in order to avoid handling of too many offers. Out of consideration for a sufficient and real the Regulations § 17-6 (3) states that it **shouldn't be invited less than five suppliers** to competitions above the EEA threshold value, while according to Regulations' § 8-6 (3) it is sufficient with three suppliers in competitions under the EEA threshold value.²⁵

Sellihca was designed to meet with the strict EU legislation. Its purpose is to reduce costs and administrative workload to both purchasers and vendors, and to ensure that all vendors' applications are dealt with fairly and consistently by the subscribing utilities.²⁶

Doffin/TED

When talking about administrative procedures, following databases are valid:

Doffin - the database for public procurement - is a service under the auspices of the Ministry of Government Administration, Reform and Church Affairs. Doffin comprises the databases for announcing public procurements. Procurements exceeding the EEA threshold values must be announced in the EU's announcement database for public procurements in EU: European public procurement journal *Tenders Electronic Daily (TED)*.²⁷ This happens automatically when submitting such announcements in Doffin (therefore the Doffin/TED shortening in this thesis).

The supply sector is not obliged to announce competitions in Doffin because of use of the prequalification order Sellihca (§ 8-2 (1) of the Regulations). Still, according to § 8-6 (1), the industry has to announce awarded contracts with value above the EEA threshold. One of the reasons behind this is that the supplier market must be kept informed about the ongoing processes in the industry. This way all interested and *qualified* suppliers that are yet not registered in Sellihca can get motivation do so. Thus, announcing entered contracts in Doffin for the public eye is one of the ways to expand the available supplier database in this sector and provide to a better competition in the industry.

²⁵ [http://www.kf-
infoserie.no/lovtjeck.aspx?PVNids8U4ZLo9gZqYO9rffOY76UnsFdsnwSSWBh0NTYGDau37EHTbT%2BngMuwNh4S
P4NWleodQRIR8aV7KHmycrX8qa23TxJsTdBK41SUuX6L3CsWjTZRjimOMeTWNk64](http://www.kf-
infoserie.no/lovtjeck.aspx?PVNids8U4ZLo9gZqYO9rffOY76UnsFdsnwSSWBh0NTYGDau37EHTbT%2BngMuwNh4S
P4NWleodQRIR8aV7KHmycrX8qa23TxJsTdBK41SUuX6L3CsWjTZRjimOMeTWNk64)

²⁶ http://www.doffin.no/Search/Show/Search_View.aspx?id=MAR120332

²⁷ http://ec.europa.eu/youreurope/business/profitting-from-eu-market/benefiting-from-public-contracts/norway/index_en.htm

2.4.3 Warning Signals in Tendering

Konkurransetilsynet in their Fact Sheet: Guidance on Tendering and Project Agreements²⁸ states that “undertakings often collaborate on responses to invitation to tender for the supply of goods and services. Such collaborations can result for instance in a *collusive tendering* or *bid rigging* where there is an explicit collusion between the tenderers aiming at market-sharing or price-fixing”.

The Check list for Public Procurements by NCA provides guidelines on how to determine collusive tendering.

Collaboration on public procurements can happen in many ways. The collaboration forms can be sophisticated and difficult to uncover. Collusive tendering happens basically in following ways:

- **Fictional bids.** Fictional bids (complementary, symbolic bids etc.) are submitted when the bidders are agreed on a strategy in which one company shall submit the cheapest bid, or a bid which is obviously priced too high or which contains conditions that cannot be accepted by the employer.
- **Neglecting to submit a bid.** A company that would otherwise submitted a bid, avoids submitting it or drugs it out.
- **Bid rotation.** The relevant bidders employ a rotating strategy when it comes to submitting the cheapest bid.
- **Market sharing.** The relevant bidders in advance share the market between each other (geographically, by product, by quotes or similar).

Warning signals of collusive tendering

Konkurransetilsynet asks to be attentive to following warning signals:

²⁸ <http://www.konkurransetilsynet.no/en/legislation/Fact-Sheet-Guidance-on-Tendering-and-Project-Agreements/>

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- Some suppliers never or very rarely submit bids, although they have all opportunities for that and are "naturally" expected to do that.
 - It is almost impossible to get bids from suppliers outside of the local region, although there is no commercial explanation for it.
 - Submitted prices are generally increased by all suppliers, although there is no natural explanation for it (for example, in form of increased prices on raw materials).
 - A bid submitted by a totally new supplier than those who usually participate in the tenders leads to a considerable fall in the "normal" price level.
 - Same suppliers almost always submit lowest prices, although there are no particular circumstances that would provide a basis for that.
 - Documents from competing suppliers contain same specifications. It can be formulations, spelling mistakes, calculation mistakes, specification of subitems, various specifications etc. The bids are obviously formed alike.
 - A supplier reveals knowledge of a competing bid before the bid-submitting deadline.
 - Only one supplier participates in inspections, but several suppliers submit bids.
 - There is a very big difference between the winning bid and rest of the submitted bids.
 - Two or more suppliers rotate the lowest priced bid according to the same pattern.
 - The winning supplier uses competitors as sub-suppliers.
 - Competing suppliers undertake simultaneous and uniform price changes without natural and logical explanations.

While one should be awake and considerate over all the symptoms and signals, it is possible to undermine conditions for cartels to form. Different preventive measures will be reviewed in the next subsection.

2.4.4 Preventive Measures

In practice, two ways of counteracting local cartels can be pointed out (Helle, presentation in BKK 2009). One has to keep following in mind when getting prepared to tenders:

- **Expand the supplier markets**
 - Open specifications

Those responsible for developing specification shall use functional or performance specifications instead of detailed ones or, even worse, supplier specifications.

- Language

One shall open possibilities for bids to be submitted in English language. This has to be specified particularly in RFQs, which ideally should also be formulated in English.

- **Control information flow**
 - Before invitations to tenders are sent out

One should keep in secret agreed upon budget prices and other details for internal use within the company. No informal contacts with current suppliers should be taken prior the tender.

- Under the procurement process

Such information as current prices for products and services, any information about other bidders' prices and specification (etc.) should be kept aside communication with relevant suppliers.

- Give the suppliers an impression that new suppliers are welcomed for participation in the tender.

Bringing insecurity about who participates in the tender makes cartels unstable, if such should exist within a certain tender.

OECD Checklist

The Organisation for Economic co-operation and development (OECD) developed a *Checklist for Enhancing Integrity in Public Procurement*.²⁹ The purpose of the Checklist is to guide policy makers at the central government level in instilling a culture of integrity in the entire procurement cycle, from needs assessment to contract management and payment. The first part of it provides guidance for policy makers – in the form of ten key recommendations – on developing an adequate policy framework for enhancing integrity in public procurement. The second part provides guidance on how to implement this framework at each stage, from needs assessment to contract management (ibid).

NCA recommendations

The Check list for Public Procurements by Konkurransetilsynet in the meanwhile lists following moments for evaluation when organizing tendering processes:

- Be updated on prices and price development on essential factors in the bids.
- Take contact with purchasers that have recently carried out similar purchases.
- Make sure that external consultants that are being involved in the procurement process sign oath of secrecy and statement that all deviations and irregularities shall be reported at once.
- Avoid making invitations to tender so ‘exclusive’ that other potential bidders are shut out.
- Avoid unnecessary terms that could exclude foreign interest. Foreign bids can provide a useful scale of measure!
- Be unpredictable with regard to who is particularly invited to deliver a bid. Unpredictability creates anxiety and insecurity in a cartel!

²⁹ The Checklist is fully available in English and French at:
http://www.oecd.org/document/46/0,3343,en_2649_34135_41072238_1_1_1_37447.00.html

- If it is possible, it can be advantageous to split up a tender. This can awaken interest from a bigger number of suppliers that don't have capacity to submit bids on a big complex project.
- Make difficult the communication between relevant suppliers in the process of a tender. It should be evaluated to carry out individual location inspections for a single bidder, although it can be time consuming. It can be evaluated whether suppliers shall specify all verbal and written communication they have had with competitors during the tendering process.
- Take contact with suppliers you have expected a bid from and hear with them why this has not happened.
- Develop experience and competence in own organization with regard to disclosure of hallmarks of collusive tendering.
- Take contact with Konkurransetilsynet if you have questions or suspicions that "something is going on". Don't discuss your suspicions with anyone of the involved suppliers. Keep all written materials and communication with the involved bidders.

Obviously, many of the depicted moments are related to the behavioural aspect of the relationship to the supplier markets in public procurement, which is the focus of this thesis. Further, behavioural theories that will make a basis for the conceptual model will be presented.

2.5 Behavioural theories

Two behavioural theories will be used as a basis for development of the conceptual model. The Theory of Planned Behaviour will be reviewed firstly, and then followed by Robert B. Cialdini's fundamental social and psychological principles underlying the tactics of successful persuaders. The conceptual model will integrate both theories in relation to the industrial buying behaviour and purchasing process in the el-industry.

2.5.1 Theory of Planned Behaviour

The *Theory of Planned Behaviour (TPB)* assumes that people are rational actors that systematically adapt and process available information before making decisions. Whether a certain behaviour will be performed or not depends on whether the person intends to perform it. Intention is presented a function of *attitude toward the behaviour*, *subjective norms*, and *perceived behavioural control* (see Figure 9).

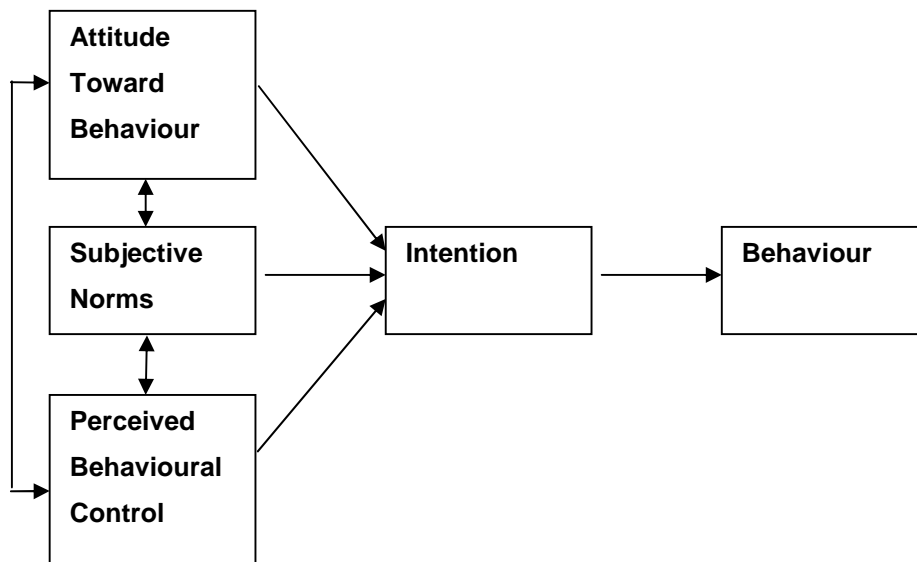


Figure 9. Theory of Planned Behaviour (Ajzen 1985, p.14)

Intention acts as an indication of an individual's readiness to perform a given behaviour and it is assumed to be immediate antecedent of behaviour. **Subjective norm** is an individual's perception about particular behaviour, which is influenced by social norms. **Attitude** is an individual's positive or negative evaluation of self-performance of a particular behaviour. **Perceived behavioural control** refers to individual's perceived ease or difficulty of performing the particular behaviour. It is meant to account for individuals' uncontrollable factors (Lu et al. 2010, p. 802).

As an example, a consumer might have a very favourable attitude toward having a drink before dinner at a restaurant. However, the intention to actually order the drink may be influenced by the consumer's beliefs about the appropriateness (i.e. the perceived social norm) of ordering a drink in the current situation (with friends for a fun meal or on a job interview) and her/his motivation to comply with those beliefs (Hawkins et al. 2001). Also consumers may be confronted with situations in which the target behaviour is not completely under the consumer's control. For example, a consumer may be prevented from purchasing a

considered service if the consumer perceives the purchase process as too complex or if he/she does not possess the resources necessary to perform the considered behaviour (Hansen and Jensen 2007, p. 86).

As such, TPB predicts intention to perform a behaviour by consumer's attitude towards that behaviour rather than by consumer's attitude towards a product or service. Ajzen (1985) proposes TPB to explain and predict various human behaviour patterns.

2.5.2 Influence by Cialdini

Robert Cialdini's social and psychological principles underlying the tactics of persuaders (which all sellers are by definition) are based on automatic, shortcut responding of people to a set of trigger features. The *triggers* are specific pieces for information used by persuaders for compliance with requests, and are proved to affect behaviour in various situations.

Ph. D. Cialdini in his book *Influence*, which has already become a classic, argues that behaviour often occurs in rigid and mechanical patterns (revised in 2009, p.16). He introduces six principles that compliance practitioners use every day to get us to say yes: *reciprocation, commitment and consistency, social proof, liking, authority and scarcity*.

Reciprocation

This rule requires that one person try to repay, in kind, what another person has provided. By obligating the recipient of an act to repayment in the future, the rule for reciprocation allows one individual to give something to another with confidence that it is not being lost. This sense of future obligation within the rule makes possible the development of various kinds of continuing relationships, transactions, and exchanges (Cialdini 2009). The rule is extremely powerful, often overwhelming the influence of other factors; among other things, it applies to uninvited first favours and can spur unequal exchanges as a result of uncomfortable feeling of indebtedness.

Commitment and Consistency

This principle is based on the fact that people have a desire to look consistent within their words, beliefs, attitudes and deeds. Once they have made a choice or taken a stand, they are under both internal and external pressure to behave consistently with that commitment. Many compliance professionals try to induce people to take an initial position that is

consistent with a behaviour they will later request from these people. Commitments are most effective when they are active, public, effortful, and viewed as internally motivated (uncoerced). Once a stand is taken, there is a natural tendency to behave in ways that are stubbornly consistent with the stand (ibid).

Social Proof

This principle says that people decide what is correct by noticing what other people think is correct. It applies especially to the way people determine what constitutes correct behaviour. If everyone else is behaving a certain way, most assume that is the right thing to do.

Product endorsements are the most obvious application of the Social Proof. If you want someone to do something for you, be sure to let them see that many other people are already doing it or are willing to do it. Social proof is most influential under two conditions:

- uncertainty – when unsure, people are more likely to attend to the actions of others and to accept those actions as correct;
- similarity – people are more inclined to follow the lead of similar others (ibid).

Liking

Cialdini continues that ‘people love to say ‘yes’ to requests from people they know and like. And people tend to like others who appear to have *similar* opinions, personality traits, background, or lifestyle. They also tend to like and trust anything *familiar*. The best way to build this familiarity is to have frequent, pleasant contacts. One positive circumstance that works especially well is mutual and successful cooperation’. Another factor linked to Liking is *association*, which, if desired, provides a halo effect when associated with something positive.

Authority

The professor states that some people are more strongly influenced by authority than others, and then compliance can vary according to the situation. This principle is generally used by citing authoritative sources to support own ideas. It is also frequently used in situations when an individual looks and act like an authority himself/herself and let others know that his/her education and experience support the expressed ideas.

When reacting to authority in an automatic fashion, there is a tendency to do so in response to the mere symbols of authority rather than to its substance (Cialdini 2009).

Scarcity

According to this last principle, people assign more value to opportunities when they are less available. The availability of an item serves as a shortcut cue to its quality. Also according to psychological reactance theory, we respond to the loss of freedoms by wanting to have them more than before. The possibility of losing something acts as a more powerful motivator than of gaining something. For example, the scarcity principle applies to the way information is evaluated. The act of limiting access to a message causes individuals to want to receive it more and to become more favourable to it. This makes limited information more persuasive (ibid).

Cialdini (2009) summarizes that people are forced to resort to a shortcut decision-making approach in which the decision to comply (or agree or believe or buy) is made on the basis of a single, usually reliable piece of information. Most popular such single triggers for compliance are the six principles described.

2.5.3 The Conceptual Model (TPB Modified)

As both behavioural theories are well known in academic environment and are supported by empirical evidence from various studies on human behaviour, they provide a good base for development of the *conceptual model*.

In the conceptual model, firstly TPB will be adapted according to the theoretical perspective on industrial purchasers' behaviour. Then Cialdini's principals will be used as a foundation behind the industry buyers' attitude towards the supplier market. The conceptual model is depicted in Figure 10.

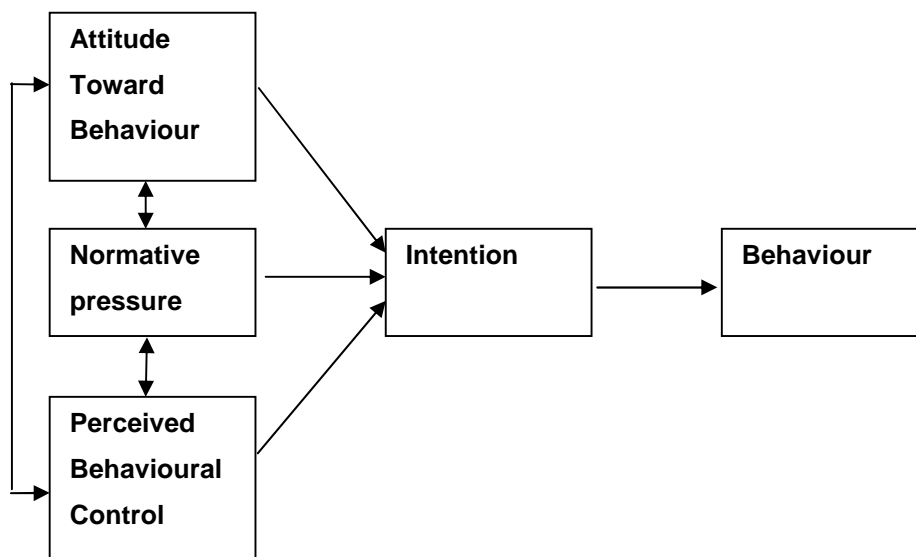


Figure 10: The Conceptual Model, based on the Theory of Planned Behaviour (Ajzen 1985)

According to the model, the industrial buyers systematically process available information before making decisions. A central factor in the model is the individual's intention to perform a given behaviour. Intention captures the motivational factors that influence a behaviour; it is indication of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behaviour (Ajzen 1991). So, *intention* refers to purchasers' evaluative affect about performing a certain behaviour, and it is based on such constructs as *attitudes toward the behaviour*, *normative pressures*, and *perceived behavioural control*.

In the context of this study, *normative pressures (NP)* refer to “norms developed through external and interpersonal influence” (Fishbein and Ajzen 1975). In order to make relationships more distinct, the construct will concern the pressure of legislative norms under which industry has to operate (therefore the replacement of subjective norms from the original model). In this research NP is measured as a degree of knowledge of laws and regulations relating to Public Procurement.

Perceived behavioural control (PBC) is defined as “the perceived ease or difficulty of performing the behaviour of interest” (Ajzen 1991, p. 183). In the context of the procurement in the supply sector, the behaviour of interest is competition-promoting practices that would undermine collusive behaviour of suppliers in tendering process. The PBC construct is related to the consumer's confidence in his/her ability to perform the behaviour, and therefore, can be interpreted as a confidence construct (Hoffman and Novak

1996). It means that those who have more confidence in their ability to make a difference are more likely to change their behaviour. Measuring this construct will follow Klobas's (1995) proposition of researching underlying potential barriers and costs of employing such behaviour.

A special attention in the conceptual model is given to attitudes. Triandis (1971) argues that attitudes have three components: *cognitive component* (thoughts and beliefs people hold), *affective component* (emotional feelings), *behavioural component* (predispositions to act in certain ways). As most contemporary social psychologists, we take a cognitive or information-processing approach to attitude formation. This approach is exemplified by Fishbein and Ajzen's (1975) expectancy-value model of attitudes. According to this model, attitudes develop reasonably from the beliefs people hold about the object of the attitude (Ajzen 1991). In our context, *attitude toward the behaviour (ATB)* refers to the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question (Ajzen 1991).

The model points the attention to the mental barriers that obstruct the change in behaviour. These barriers don't need to do anything with the real obstacles. Here the Cialdini's principals are employed as an explanation to how the buyer's "rational" behaviour is affected by influence factors. Following definitions were agreed upon in a focus group consisting of three specialists representing a commercial dimension in the procurement process in the el-industry:

Reciprocation construct applies to beliefs about product qualities and the relationship between high price and other dimensions of the purchase, like, for example, quality, brand and supplier names, etc. The reasoning behind this choice of measure was decision to employ a fixed-action behavioural pattern, which indicates unconscious response to various stimuli persuaders use in order to justify high price. In the meanwhile, however, the *price* concept should have been correlated with willingness to pay. It was decided not to employ the "give-and-take" constituent in this construct due to the very sensitivity of the issue.

Commitment and consistency construct applies to exchange of information, both internally (colleague-to-colleague) and externally (company-to-company) in the industry. Examples include recommendations to colleagues, willingness to give positive statements about

suppliers at request, or any other statements and activities that evoke feelings of ownership to before the choice of supplier is fulfilled.

Social Proof construct applies to the processes and routines usually employed in the industry.

Liking construct applies to beliefs about necessity of local presence of suppliers, networking in the industry, common experience, mutual acquaintances, attitudes towards culture, and language beliefs shared by purchasers.

Authority construct applies to the importance of references and recommendations in the industry.

Scarcity construct applies to beliefs about uniqueness and exclusivity of products and suppliers.

In sum, attitude beliefs about products, suppliers, routines, and related positive or negative changes on the market will explain in which degree purchasers want personally to employ a certain behaviour.

The TPB theory says that all the three factors (ATB, NP and PBC) can have an indirect effect on behaviour through affecting each other. For example, normative pressures affect perceived behavioural control in such a way that it can cause purchasers to behave in a manner that is inconsistent with their attitudes and their preformed intentions. On the other hand, the most effective way to strengthen the intention to behave in a certain way is through perception that it will be possible. Thus, negative experiences, especially in an earlier attempt, will affect beliefs through reducing expectations.

As the conceptual framework makes it possible to understand and predict better the industry purchaser's decisions related to the supplier market by thoroughly examining underlying attitudes and perceptions, the actual behaviour is still to be researched and described.

3. Method

3.1 Survey Administration

A *population* is the entire collection of all observations of interest to the researcher (Burns and Burns 2008). In this case the population is the executives who carry out procurement projects with value above the EEA threshold in the Norwegian electric utility companies. These are executives involved into the very procurement process, and they are represented by the commercial and technical dimensions in the procurement, which are distinctive in big and medium-sized companies, or those executives who carry out both functions – as a rule, in smaller companies.

Commercial executives are contracting managers, responsible for the supply market research, development of requests for quotations (RFQs), evaluating the incoming bids, and carrying out supplier negotiations. They control that the supplier selection is made based on the lawful selection criteria, and enter into contracts with the winning bidder according to the voiced pre-specified criteria. Their specific function is to provide to a sufficient competition and make sure that each stage of the procurement process is carried out in accordance with the requirements in the Public Procurement Act and the pertaining Regulations.

Technical executives are various specialists representing internal customers within a company (it can be, for example, departments or daughter companies). These specialists as a rule represented by engineers, but there are many *siviløkonomer* (MBAs) in this group as well, so it would be incorrect to shorten the definition to, for example, ‘technicians’. They define needs of goods and services that are to be purchased, determine specifications, audit quality organization, perform value analysis, and quality control. In smaller companies technical specialists undertake both, technical and commercial functions in the purchasing process.

As *sample* is a representative portion of the population which is selected for study (Burns and Burns 2008), Sellihca register of Norwegian utility companies is chosen as *sampling frame* (list of the target population) for this research. Sellihca is representative of the entire population, because its purpose is to ease the procedure for procurements above the EEA threshold value for the industry. Therefore, companies that are not registered in Sellihca

have no need in direct purchases above the EEA threshold value and are initially not relevant respondents for this research.

Two Sellihca-users, Hydro and Statoil (represented by Norsk Hydro ASA, Norsk Hydro Produksjon AS, Hydro Aluminium AS), were excluded from the respondent list, as these large international companies have much more professional procurement function compared to the Norwegian utility industry. Besides, oil and gas companies produce energy for mostly own consumption, while this study is concerned about the costs that affect the end consumer and therefore have greater impact on general welfare of the Norwegian society.

The initial list of registered companies in Sellihca pr January 2010 contained 180 companies represented by 83 original contact persons (or “company e-mail address” for smaller companies) and 9 additional contact persons. In the provided list, all the companies were categorized into 27 purchasing units called Subscribers.

Since Sellihca provided a list of only contact people from each utility company, a *snowball sampling* (when initial contacts provide further contacts) was used. Respondents were recruited by an invitation e-mail in which contact persons registered in Sellihca were asked to produce a list of relevant commercial and technical executives participating in the procurement process in the company. Thus, elements of *judgment sampling* (experts’ judgment that they are representative of the population of interest) were used. The contacted people were given 2 weeks to produce the respondent list for their company.

A total of 252 respondents were assigned. In order to make a representative selection from the industry, *quota sampling* (selecting units from each of the segments) was used on parts of the contacts by sending research reminders to samples from each group of company representatives based on the company size. Bigger companies have more resources and more frequent needs in purchasing goods and services above the EEA threshold value, so it was very important that these companies would be equally represented in the response.

The survey was administered via Questback. Two reminders were sent with a week in between. The reminders were followed by phone in order to clarify the research purposes and answer to possible questions. 118 responded produced 46,8% response.

3.2 Questionnaire Design

With help of the data obtained in the interview, it was decided to focus on following elements in the structural approach of the research when looking at **Behaviour vs Perceived control vs Attitude**:

Suppliers

- *products (quality, price, etc.)*
- *proximity (in meaning of local presence)*
 - from Norway
 - from the EU/EEA
 - outside of the EU/EEA

Routines

- *industry vs company*
 - Supplier search
 - Sellihca and Doffin/TED
 - Requests for quotation
 - templates
 - standard terms of contract
 - specification
 - language
 - bid-submitting deadlines

Besides these elements, **awareness** of cartels in the supply market will also be measured.

One pilot-test of the questionnaire was carried out on one commercial executive. The author will not describe the pilot-testing of the questionnaire and all the revisions made, only the final result will be presented.

In this subsection, questions will be presented according to the structural approach, so the order of appearance will be different from the questionnaire, in which the question structure has a more “natural” flow. For space-saving reasons, the original question formulations are to be found in Appendices 1- 2 (exception Q50 and Q55, for which the original statements will be presented). Here, the purpose of each question will be introduced and argumentation for answering alternatives will be provided.

Introduction part. Here the author and the objective of the research are introduced to the prospective respondents. The definition of procurement projects with value above the EEA threshold is provided, and a short explanation on why the research is relevant for both, the commercial and technical executives, is given. An approximate estimation of time needed for filling out the questionnaire, and contacts in case of additional questions are supported.

Classification questions

Q1 – company size

Less than 100 employees – small companies.

100-500 – medium-sized companies.

More than 500 – large companies.

Large and medium-sized companies have purchasing departments in which commercial and technical sides in procurement are two distinctive dimensions.

Q2 – company type

Energy production, Distribution, District heating – main types of electric utility companies

Q3 – working experience in this industry

Less than 3 years – relatively little experience, no expected awareness of cartels

3-10 – long enough experience, the executives should be aware of cartels existence in the industry

More than 10 years – long experience in the industry

Q4 – area of the executive’s responsibility in procurement process

Commercial, technical or both fields of responsibility.

Normative pressure

Q5 – degree of proficiency in the Public Procurement Act and the relating Regulations.

Those who believe they know the laws and regulations *Well* don’t see needs for changes and might have stronger resistance for changes. Those who agree they *Have need for training*, are those who might have wrong attitudes and beliefs due to lack of knowledge, which can be fixed with more training. They constitute the “margin” for positive development in the industry. It is expected that those who are *Proficient* in laws, have the best understanding of the market situation and take the initiative to develop preventive measures against the

supplier cartels. If they don't develop a structural approach and systems in their routines, one has to see why. This group of executives is the most difficult to change their attitudes.

This question can be seen in relation with Q3 (experience), Q4 (area of responsibility), Q6 (awareness of cartels in the past) and Q16 (awareness of cartels in the present) in addition to checking established company routines – Q18.

Other tools of normative pressure are systems Sellihca, Doffin/TED which are in use in the industry due to the Regulations relating to public procurement in the supply sector. Despite of the results on Q5, all the questions regarding the use of these systems will be control questions for the construct of the Normative pressure. Based on the results, there might be discussion regarding the following:

- *knowledge* about these systems

For example, if over 20-30% respondents answer Don't know on questions related to these systems, it will mean that they have no knowledge about it. All responds less than 20% will indicate a neutral position in the answers.

- *behaviour*

Those who provide answers will show the effect the normative pressures have in the industry.

Awareness of cartels in the supply market

Q6 – awareness of the *cartels existence* in the past in the industry

Q7 – awareness of the *field(s)* in which cartels had existed

Q8 – awareness of the *supplier names* that were involved in this practice

Q9 – awareness of *how cartels were disclosed* (can provide tips for the industry)

Q10 – sources of information

Q12 – awareness of how many suppliers are present in Norway within the cartel exposed field

Q13 – awareness of how many suppliers are present in the EU within the cartel exposed field

Q14 – awareness of how many suppliers are present outside the EU within the cartel exposed field(s)

Q16 - awareness of the *cartels existence* in the present in the industry

The aim of these questions is to check the awareness level about supplier cartels in the industry, knowledge of what has happened in the industry and what is going on in the supply market at present time.

Behaviour

Q11 – whether those who are aware of cartels are conscious about the fact that they continue purchasing from the cartel participants

Shall analyse Q11 against data from Q6 (awareness of cartels)

[Routines]

Q15 – how many suppliers the executive invites when purchasing within the cartel exposed field

3 or less – minimum requirement/ sometimes under the minimum requirement

4-6 – trying to break the collusive practice and promote competition

This question is related with Q12-Q14 (market knowledge).

Q17 – how procurement is organized with regard to communication with the supplier.

Answering alternatives *Only technical executive is involved* or *Only commercial executive is involved* will both indicate unfortunate practices.

Q18 – at which stage commercial executive becomes involved in the procurement process

Early in the planning process of the procurement – the ideal procedure for procurement process

After specification is developed – power of the commercial executive is limited

After contact with possible suppliers is made – power of suppliers over buyers is on its maximum

The aim of Q17-18 is to check points of contacts in relation to communication with the suppliers.

Search for suppliers routines Q19-21:

Q19 – how many suppliers usually are on the bidders list. This is also a control question to Q15.

1 or 2 – competition-limiting activities

3-5 – varying from minimum requirements (3) to an OK level

More than 5 – competition-promoting activities

This question can be seen in relation with Q12-Q14 (about how many suppliers are available at different parts of the market in the cartels exposed field).

Q20-21 – how often different methods of selecting suppliers to bidder list are selected

Sellihca, Internet, Industry magazines, Visit to exhibitions, Other

While Sellihca is an official database with suppliers, the more methods used, the better. We have to look at the frequency of their use in the entirety of answers. For example, prevalence of *Visit to exhibitions* will point into direction of importance of personal relationships.

It will also be interesting to see which other methods are used, if any.

System routines Q23-26:

Q23 – whether the executives encourage new suppliers to register in Sellihca.

This question has to be seen in relation with Q22 (regarding satisfaction with Sellihca).

Q24 – how often the executives publish requests for information in Doffin/TED.

The industry is not obliged to do so because of having Sellihca. Still, it is an extra measure of competition-promoting activities. Answers can be controlled by checking Doffin/TED for data registered the last year or two.

Q25 – how often the executives announce contract awards in Doffin/TED.

Unlike Q24, this procedure is obligatory, therefore answer alternatives are more concrete than in Q24.

1-3 times pr year – depending on size of the company can be a bad routine (for a large company) or good one (for a small company).

More than 3 times pr year – relatively often.

Announce all assignments (over 3,2 mil NOK) – a perfect routine for all companies in the industry.

Answers can be controlled by opening Doffin/TED web pages and checking the register for announcements of awarded contracts the last year or two.

Q26 – whether the company has an internal procedure that ensures that contract awards become announced in Doffin/TED.

This is an explanatory question to Q25.

Relationships with suppliers

from Norway:

Q32a – how often the company invites to tenders suppliers from Norway.

from the EU:

Q32b – how often the company invites to tenders suppliers from the EU.

international suppliers from outside of the EU/EEA:

Q32c – how often the company invites to tenders international suppliers from outside of the EU (meaning outside of the EEA). This question can be seen in relation with Q28 and Q29 (earlier experience).

Behaviour in the past and experience with suppliers from outside of the EU/EEA

Q28 – whether the company has ever purchased from international suppliers from outside of the EEA.

Q29a-Q29e – experience with these deliveries. This is a supplementary question to Q28.

Behaviour in the present

Q30 – whether the company still invites to tenders same suppliers from other countries than the EEA that they earlier had as bidders. This question has to be seen in relation with Q28 and Q29.

Q31 – whether the company invites to tenders new suppliers from other countries than the EEA. This question has to be seen in relation with Q28 and Q29.

[Local presence]

Q45 – routine of entering into a contract with a foreign supplier, which is not established in Norway

Directly – an open approach towards foreign suppliers

Through a Norwegian representative – risk averse approach towards foreign suppliers

Q46 – how many of the existing suppliers don't have a Norwegian registration number

The answers vary from *Less than 1%* to *More than 20%*.

Q47 – what part of purchases in total foreign contracts have in volume

The answers also vary from *Less than 1%* to *More than 20%*. This is a somewhat explanatory question to Q46.

Request for quotation (RFQ)

Q34 – whether the company use templates when preparing requests for quotation. If a company does use templates, it means that this company has a system with internally developed standards when approaching suppliers. Each company should have a system and procedures, routines that all executives involved into procurement processes have to be familiar with.

Q35a – whether there have been made changes in *templates for RFQs* the last two years.

This question has to be seen in relation with Q34. Cross-tabs with Q3, Q4 will help to interpret the answers.

The industry has to make sure that the systems and routines become updated with time. Outdated technical descriptions lead to use of old technologies. New technical solutions could have helped to solve old problems in new ways. On the other hand, not revised technical descriptions provide security, because they make sure that something that has functioned many times before will be used again. Old templates for RFQs and old specifications both cement old technology – from each side in the procurement process, technical and commercial.

Specification

Q35b – whether there have been made changes in *technical descriptions* the last two years.

This question has to be seen in relation with Q38. Cross-tabs with Q3, Q4 will help to interpret the answers.

Q36 – how often different standard terms of contract are used in the industry.

In this research the following range of standard terms is used:

a) *NL01* – a supplier developed standard.

b) AKB1988 – an industry-agreed on standard for electro-mechanical equipment. This one is more balanced than NL01, but still seller- friendly.

c) AKS89 – general governmental terms of contract for procurement. It is suited for product and made-to-order procurements. Outdated.

d) AIS89 – general governmental terms of contract. Plain delivery terms (guarantees, delivery).

e) Fidic, Orgalime, ICC – international standards.

Fidic – an advisory engineers contract. Balanced.

Orgalime – a supplier-based standard (international variant of NL01).

ICC – International Chamber of Commerce standard.

f) NS – Norwegian standards. Technical and contract standards developed by Standard Norge. An industry-agreed upon standard. The proprietor is Standard Norge. It is mainly applied to building and construction, but also to some advisory services. Balanced.

g) Kolemo – a standard under development. ‘Contract, delivery and montage’. A modern contract that is meant as a replacement of 20 year old AKB1988.

h) SSA, IKT – a governmental standard agreement for IT.

Several contracts that regard purchase, service and development of both hard- and software. Balanced.

i) In-house terms of contract – own standards developed by the purchasing enterprises. Are mainly used by big buyers. If the research will show that small and medium-sized companies in el-industry also use such terms, it will indicate an unfortunate practice. Such standards pressure all the risks to the supplier, which will result in a higher price. This is a competition-limiting practice.

j) Other – to be specified in **Q37**.

In sum, the standard terms of contract can be distinguished as supplier-based terms of contracts, governmental contracts that are balanced, and in-house terms of contract that let buyers exercise their power over suppliers. The first and the last groups are competition-limiting practices. It will also be interesting to see how many of the commercial executives and those who carry out both functions are familiar with all of these standards.

Q38 – how often the companies use following types of specification.

a) Detail specification

b) Function- or performance based specification

c) Industry-standard specification

d) Suppliers' specification

The larger the degree of detail specification, the less the possibility for competition is provided. This makes use of supplier specification least desirable and performance-based specification most desirable type. The types are mixed in order not to let the respondents intuitively understand which answers are more preferable.

This question may be seen in relation with Q16 (awareness of cartels) in order to interpret the results.

Language

Q39 – how often the executives allow for following:

a) *That RFQ is prepared in English*

b) *That a bid can be submitted in English*

Q40 – share of Norwegian language RFQs in the respondent's company.

This is a control question for Q39.

Under 10% - this is an expected real estimation in the industry

10-50% - would indicate a good open attitude towards foreign suppliers

51-70%, 71-80%, Over 80% - are the alternatives indicating an open-minded attitude towards international competition. The shares over 50% are divided into several options in order to capture a more precise estimation.

Q41 – whether the company has in-house terms of contract in English.

Q44 – what share of the company's contracts above the EEA threshold value is in English.

Answer alternatives are *Under 10%, 10-50%, Over 50%*. The share above 50 % is not divided into smaller segments because it is already a very high value in itself.

This is a control questions to Q40. It can also be compared to answers given on Q39.

Bid-submitting deadlines

Q42 – how often the company uses different deadlines in competitions with negotiation:

a) *Less than 24 days* - the absolute minimum is 10 days, which is used in extraordinary circumstances or where this is agreed upon with the bidders.

b) 24 days - is a minimum deadline in competitions with negotiations for purchases above the EEA threshold value (Regulations relating to procurement rules in supply sector, Chapter 9, § 9-2).

c) More than 24 days

As the usual deadline is 24 days, all shorter deadlines are exceptions. We want to see how often the energy companies have to carry out urgent deliveries.

Q43 – how often the company uses an extended deadline in order to attract new market players.

This question checks whether the industry consciously uses extended deadlines in order to promote supplier competition.

Perceived behavioural control

Here the respondents' beliefs and perceptions about whether they can control conditions in which they operate will be measured.

Company routines

Q48 – who has a greater impact on the outcome of the procurement process in the respondent's company.

With either of the alternatives, *the technical executive or the commercial executive*, there will be a distorted picture of the industry. *Both technical and commercial executives have equal impact* should be the ideal perception of the situation.

This question has to be seen in relation with Q4 (company size) and Q5 (field of responsibility).

Q49 – who should have greater impact on the outcome (who becomes awarded the contract) in the company

This is the check-question on the prevailing beliefs about own roles in the procurement process. Besides Q48, results should also be seen in relation with Q4 and Q5.

Respondents will be presented a number of statements on which they are asked to indicate, the degree of agreement/disagreement on a 6-point Likert scale, varying from *Strongly Agree* to *Strongly Disagree*.

Suppliers

Q50a – In my opinion there is a real competition in the market

Q50b – I don't let myself be manipulated by suppliers

Q50f – References provided in the bid give valuable information regarding the procurement

Q55tt – It is okay to pay more if this leads to reduced delivery times

Routines

Q50c – I regularly have to carry out urgent deliveries

Q50d – I regularly have too little time to carry out procurement projects correctly

Q50e – I don't have time to check references in the bid

Q50g – It is resource-demanding to administrate many bidders

Q50h – It is time-consuming to evaluate many bids

Q50i – The submitting deadlines are too short to attract new market players

Q50j – The outcome is in too large degree determined by procurement regulations

Q50k – I am comfortable with using English as business language in preparation of RFQ and in negotiations

Q55ss – It is necessary to have several bids to evaluate

Q55uu – An extended submitting deadline attracts new suppliers

Q55vv – It is important to check stated references

Q55ww – Use of English in the preparation of RFQ leads to more competition

Attitudes affected by perceived behavioural control**Attitude towards Sellihca**

Q22 – satisfaction with the supplier choice in Sellihca

Q27c – beliefs about whether Sellihca can provide a sufficient choice of suppliers

Q51 – beliefs about whether announcement of tenders in Sellihca leads to better changes in:
a) market situation, b) products, c) quality, d) reliability, e) delivery times, f) risk, g) prices.

Attitude towards Doffin/TED

Q27a – beliefs about whether it is possible to get more competition by publishing more *RFIs* in Doffin/TED

Q27b – beliefs about whether it is possible to get more competition by announcing more *contract awards* in Doffin/TED

Q52 – beliefs about whether announcement of *tenders* in Doffin/TED leads to better changes in: *a) market situation, b) products, c) quality, d) reliability, e) delivery times, f) risk, g) prices.*

Q53 – beliefs about whether announcement of *awarded contracts* in Doffin/TED leads to better changes in: *a) market situation, b) products, c) quality, d) reliability, e) delivery times, f) risk, g) prices.*

Answers to Q51, Q52, Q53 can be compared in order to see which beliefs about advantages and disadvantages prevail in the buyers' minds with use of each of the systems.

Attitude towards suppliers

Q33 – satisfaction with suppliers from Norway, the EU, and international suppliers from outside of the EU/ EEA. Difference in attitude. This question has to be seen in relation to Q32.

Q54 – beliefs about whether sending RFQs to suppliers outside the EEA leads to better changes in: *a) market situation, b) products, c) quality, d) reliability, e) delivery times, f) risk, g) prices.* This is explanatory question to Q52-Q53.

Attitudes towards behaviour – constructs from the Cialdini's theory of persuasion and compliance

Reciprocation

Questions measuring this construct ideally shall sound as follows:

- *Do you receive small gifts/ accept invitation to dinners, family tours etc. or*
- *Do you feel you owe a return favour ...?*

Even such a simple question as *Do you accept invitations to presentations organized by suppliers?* could evoke negative attitude towards the whole research, so it was decided to extract direct measuring of the reciprocation construct. Still, as it is one of the most frequently used techniques in the field of persuasion, compliance, and negotiation, it would

be incorrect to avoid measuring it completely. That is why it will be measured indirectly via questions relating to the exchange of information and relationships building in the questions relating to the later constructs. Instead, it was used general “click, whirl”-responses to information on price, brands and suppliers (can be relevant to *Liking*).

Q55a – A high price indicates higher quality

Q55b – Well-known brands indicate high quality

Q55c – Well-known suppliers indicate security

Commitment and consistency

Q55d – I give references and make positive statements about products that I buy

Q55e – I give recommendations to colleagues if suppliers ask about it

Q55f – I participate with suppliers in product development [*ownership*]

Q55g – I participate in external user forums [*ownership*]

Social Proof

[Suppliers]

Q55h – New and unknown suppliers lead to increased risk

Q55i – New and unknown suppliers lead to greater need for training

[Products]

Q55j – Unfamiliar brands indicate increased risk

Q55k – Unfamiliar brands indicate greater need for training

[Routines]

Q55l – It is important that the industry has a common approach to the supplier market

[Specification]

Q55m – Established technical standards hamper technology development

Q55n – Established templates for RFQ and general contract terms hamper more competition

[Standard terms of contract]

Q55o – Use of internationally known standard terms of contract encourages competition

Q55p – Use of internationally known standard terms of contract increases our risk exposure

[Language]

Q55q – Use of English in RFQ increases our risk exposure

[Systems: Doffin/TED]

Q55r – It is okay not to announce competitions in Doffin/TED, because this is common procedure

Q55s – It is okay not to announce awarded contracts in Doffin/TED, because this is common procedure

Q55t – It is okay not to announce awarded contracts in Doffin/TED, because it has no consequences

Liking

Attitude to suppliers – degree of comfort

Q55u – It is important that the supplier is known in our industry

Q55v – It is important that the supplier knows our company

Q55w – It is important that the supplier has a local presence

Q55x – It is important that the supplier knows Norwegian conditions

Q55y – Networks established by known suppliers are important for the industry

Q55z – Replacing a product is unreasonably costly

Q55aa – Replacing a supplier is unreasonably costly

Q55bb – I will rather relate to suppliers I already have a positive experience with (companies)

Q55cc – I will rather relate to suppliers I know (persons)

Q55dd – I will rather relate to suppliers my colleagues are familiar with

Q55ee – I will rather relate to suppliers who have the same business culture as I

Q55ff – I will rather relate to suppliers who speak the same language as I

Authority

Q55gg – Network from college is important to the industry

Q55hh – Network from professional life is important to the industry

Q55ii – I rely on informal references about a product from my colleagues

Q55jj – I rely on informal references about suppliers from my colleagues

Q55kk – I rely on formal references about a product from my colleagues

Q55ll – I rely on formal references about suppliers from my colleagues

Q55mm – It is better to choose same products as other energy companies use

Q55nn – It is better to choose same suppliers as other energy companies use

Q55oo – We should not be a pilot-buyer for new products and suppliers

Scarcity

Q55pp – It is better to buy from a niche-supplier to the energy industry than from suppliers to other industries

Q55qq – It is okay to pay more for deliveries from a niche-supplier

Q55rr – I would rather buy from a supplier who only has the EU as market

The questionnaire sums up with 2 open questions:

Q56 – offers the opportunity to think and tell about the affect cartels have had on the respondents company. This is a control question that will explain the attitude towards the problem of cartels.

Q57 – opens for comments.

In sum, *open-ended text questions* were used to generate more detailed answers on awareness of supplier cartels in the beginning of the questionnaire and to gather information that respondents feel has not been covered in the closed-ended questions – in the end of the questionnaire. *Multiple choice question* was used on Q29a-Q29e about earlier experience with international suppliers. There the respondents could select among a set of response choices all issues that apply. *Ordinal scale questions* are applied when measuring degrees of agreement with propositions or satisfaction with measured issues (routines or experience). *Ratio scale questions* were used when measuring certain volumes (i.e., purchases or shares of foreign suppliers in the total supplier database).

The questionnaire is enclosed in both, Norwegian (original) and English version in Appendices 1 and 2.

3.3 Validity and reliability

Data analysis will never provide good results unless the data are of good quality. Therefore, it is important to use operational definitions that are valid and reliable measures of concepts. A measure is **valid** if it actually measures the concept we are attempting to measure. It is **reliable** if it consistently produces the same result (Aasland 2008).

3.3.1 Validity

Internal validity is concerned with the degree to which the conditions of the research are controlled. Following types of internal validity are relevant for discussion of measuring instrument:

Content validity reflects the extent to which the content of a measurement reflects the intended content to be investigated. In other words, it regards whether the survey is fairly representing the actual content. Consulting with the industry specialist, Head of Purchasing Department of one of the biggest power companies in the pre-survey interview helped to gain understanding on the variety of issues before developing the survey questionnaire.

Face validity is a validity of appearances that disguises the real intent of the assessment (what a test purports to measure). It regards the questionnaire design and how professional it looks. Questback program used for professional surveys was used. NHH logo indicated that the purpose of the survey is scientific. A lot of industry terms were employed in the measure. Name of the industry authority was included in the invitation e-mail encouraging the respondents to participate in the research. What was stated in the invitation letter was the real purpose of the research. High face validity assumingly motivated the subjects to tackle the survey in a serious way.

Construct validity involves relating a theoretical concept to a specific measuring device or procedure.

Its concern is whether the measuring instrument taps the concept as theorized. Ciladini's construct *Reciprocation* was not measured in order to take attention from personality and on industry routines. Other measures are considered reliable, as all the statements for Q55 were discussed in a focus group with professional buyers, which provides generally high construct validity.

3.3.2 Reliability

Reliability refers to the consistency and stability of findings that enables findings to be replicated. When talking about errors of measurement in a measuring instrument, following concerns were paid attention to:

Positively and negatively worded items are randomly distributed in the questionnaire to make respondents read and understand the item before responding.

An increased length of an assessment is used in order to make a respondent think before providing a reply, intended to increase its reliability.

Answer alternatives are alike on some questions that measure same concept or are control questions. This way it will be possible to compare the results and see whether they support each other or whether there is a mismatch.

Questions that start with “*How often...?*”, “*How satisfied...?*”, and “*How do you agree...?*” offer the respondents to indicate their answer on a 6-point Likert scale ranging from *Never* to *Always* / *Very Dissatisfied* to *Very Satisfied* / *Strongly Agree* to *Strongly Disagree*. The alternative “*Don’t know*” is set into the middle of the scale in order to force the respondents to choose either positive or negative position on the scale.

Many questions measure new information that cannot be achieved from any other sources. Though, some answers can be checked (e.g., use of Doffin/TED), which increases the reliability.

There is a need for accurate and stable measures within research. Reliability of measurement allows to access future behaviour in the industry.

4. Analysis and discussion

4.1.1 Questionnaire

Answers on obligatory questions were provided by all respondents (N=118), which generally gives no missing values.

For purposes of this paper, following will be the main toolkit of data analysis for this research:

- Frequency tables – describing the number of times an observation occurs
- Descriptive statistic – with *Mean* (average of the data values), *Median* (the mid point), *Mode* (the data value that occurs most often),
- Crosstabs (contingency tables), that allow to study relationships between different variables,
- Some functions of Questback program (e.g., filters and comparing)

Due to space restrictions of the paper, most of the data will be described as text with some of the tables and graphical presentations placed where relevant.

Classification questions

Company size

An approximately even representation of respondents within each company size group indicates a representative selection from the population. Small companies are represented by 32,2% of the respondents, medium-sized companies – by 27,1%. Large companies (40,7%) is the biggest group of the respondents. This is a positive result, as it is expected that large companies have more resources to carry out bigger procurement projects, which also means that they are more actively involved into purchasing products and services with value about the EEA threshold. Besides, attitudes and established routines in the large companies set example to the whole industry. So the received distribution in respondents is fortunate for the analysis.

Company type

More than a half of the respondents come from distribution companies (54,2%). Energy production provides 22,9%, and Other 19,5%, which are assumingly parent companies, as commercial executives usually work there. District heating is represented by 3,4% of the respondents. This is as expected and is in correspondence with the sampling population.

Industry experience

65,3% of the respondents have worked in this industry for more than 10 years. The other two groups are represented evenly, Less than 3 years - 16,9%, 3-10 years - 17,8%.

Field of responsibility in the procurement process

All the three groups are represented evenly. Commercial side – 28,8%, Technical – 37,3%, Both – 33,9%. The longest work experience (30,5% of the total) represent technical executives with experience longer than 10 years. The second biggest group, 22% of the total, are those who carry out both, commercial and technical functions for longer than 10 years. The third biggest group, 12,7% of total are commercial executives with experience of longer than 10 years. The rest is evenly distributed among groups of respondents with shorter work experience.

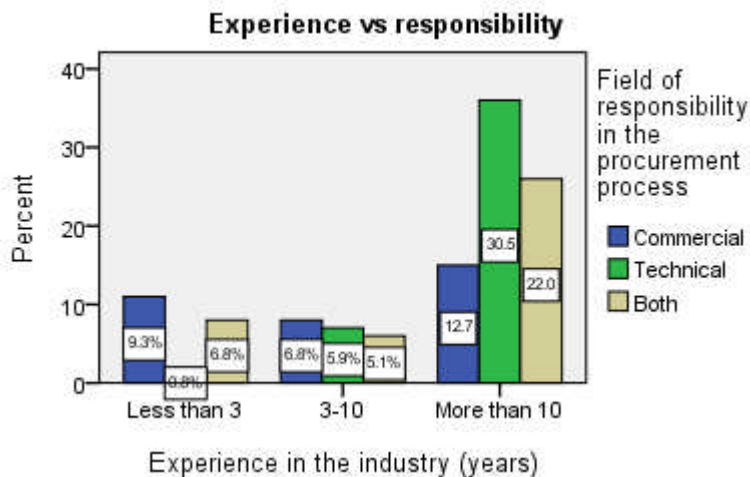


Figure 11. Experience vs. responsibility

Normative pressure

Knowledge of laws and regulations

Ca half of the respondents (50,8%) says that they know the regulations relating to public procurement 'well'. The second biggest group (28%) agree that they 'need more training'. 19,5% claim to be 'proficient' in the laws and regulations, and 1,7 % say that this question is not relevant to the area of their professional responsibility.

Of those who are 'proficient' 15,3% work on the commercial side and 3,4% carry out both technical and commercial functions in the company. Only 0,8% (1 person) on the technical side. This is a good sign, because laws and regulations are so complex that it is not expected that technical executives have a full understanding of the regulations, since it is the field of responsibility of commercial executives in which they get a continuous training.

Knowledge of laws vs. area of responsibility

The most 'proficient' in laws, as expected, are commercial executives (15,3% of 19,5%).

Of those who know the regulations 'well' 11% are commercial executives, 22,9% carry out both functions, and 16,9% are technical executives.

Of those who 'need more training' 2,5% are commercial executives, 18,6% are technical, and 6,8% carry out both functions. The result for commercial side and those who carry out both functions can be explained with earlier crosstab with years of experience, in which of the total 9,3% of commercial and 6,8% (the absolute match) of the executives carrying out both functions have experience less than 3 years. Moreover, technical executives are naturally not expected to know the regulation fully.

'Not relevant' the regulations are to 0,8% of technical executives and to 0,8% of those who carry out both functions. While the former can be justified by the specifics of work on the technical side (those who take care of projecting don't participate in procurements directly, and are therefore not relevant respondents for this research at all), those who carry out both functions, on the other side, must know the laws.

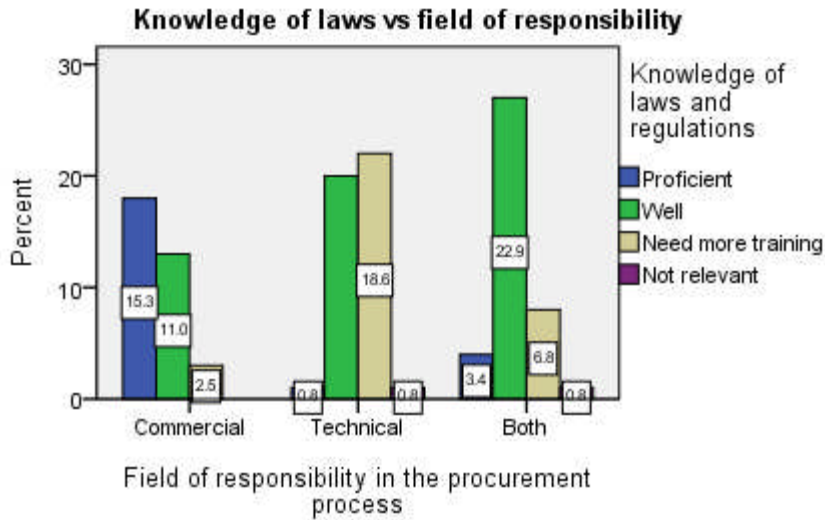


Figure 12. Knowledge of laws vs. field of responsibility

Knowledge of laws vs experience

Of those who have the longest experience in the industry (more than 10 years) 34,7% know laws and regulations ‘well’, 22% need more training. Relatively even division of proficient and well familiar executives is among those with experience of less than 10 years.

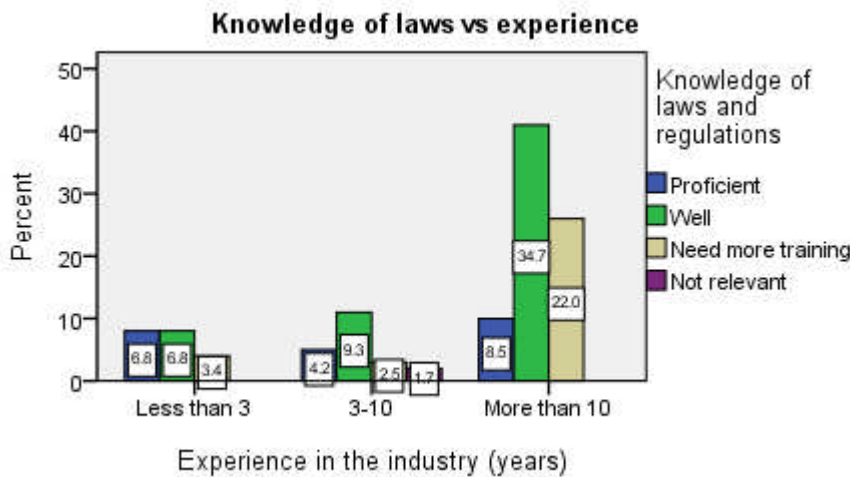


Figure 13. Knowledge of laws vs. industry experience

Awareness of cartels in the supply market

Awareness that the company has been exposed to cartels

The total of 75,4% of the respondents are either *not aware* of the cartels (more than half of the respondents - 50,8% - gave a clear 'No' as answer) or Don't know (24,6%) about it. Less than one fourth of the respondents, 24,6%, are aware of supplier cartels cases in the industry. This indicates that the degree of awareness of supplier cartels in the industry generally is very low.

Awareness that the company has been exposed to cartels vs field of responsibility

The biggest groups of executives who have not been aware of supplier cartels in the industry are technical executives (20,3%) and those who carry out both functions (20,3%). If this result for technical executives can be argued for, those who carry out both functions should have had more information the ongoing processes in the market.

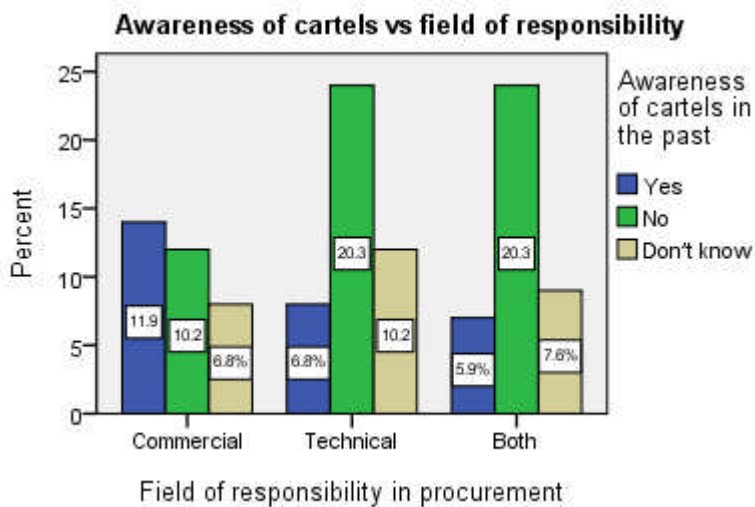


Figure 14. Awareness of cartels vs. field of responsibility

Awareness of cartels in the past vs experience

Despite the long industry experience, 28,8% of those who are not aware of cartels have more than 10 years experience in the industry. 17,8% answered Don't know, which may indicate that they wanted to avoid expressing their opinion on the issue.

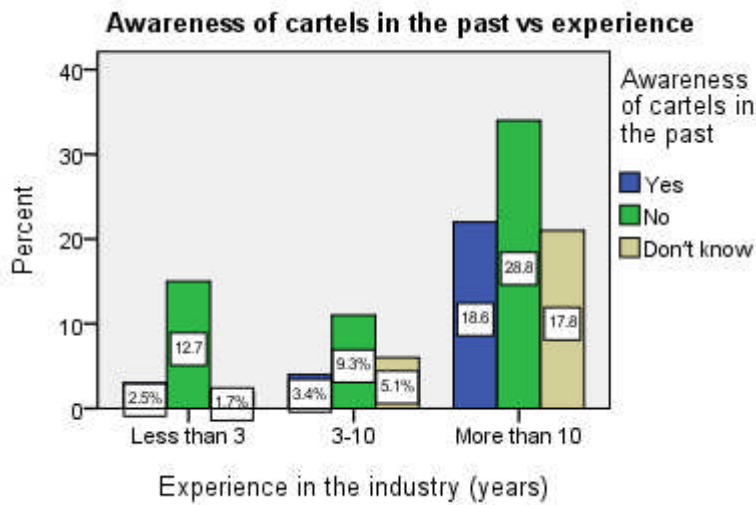


Figure 15. Awareness of cartels in the past vs. industry experience

Awareness of cartels in the past vs knowledge of laws relating to Public Procurement

In total 39,8% of ‘well’ familiar with laws and regulations executives are either *not aware* that their company has been exposed to cartels (frightening large 30,5%) or *don’t know* about it (9,3%).

In total 10,2% of ‘proficient’ in law executives are either *not aware* of cartels (5,1%) or *don’t know* about it (5,1%).

Most of those who need more training in the laws are *not aware* of cartels (13,6%) or *don’t know* about it (10,2%). As expected, those for whom the knowledge of laws and regulations is not relevant, are *not aware* of cartels (1,7%).

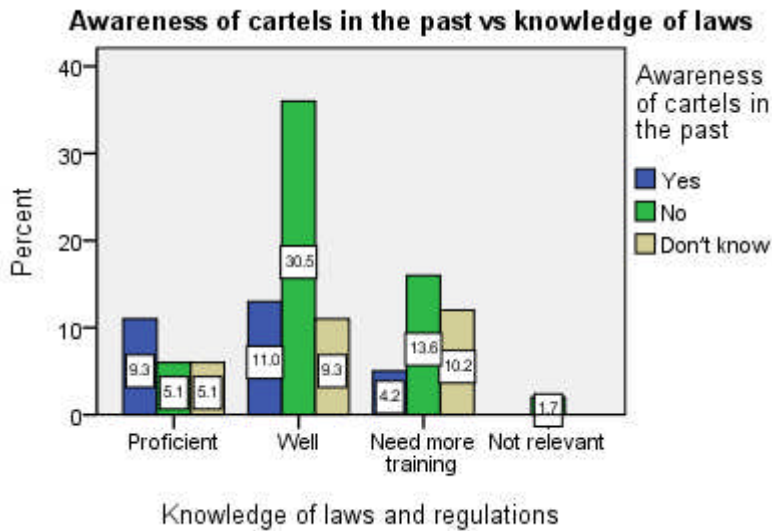


Figure 16. Awareness of cartels in the past vs. knowledge of laws

Awareness of the product fields in which cartels have existed

Of total 118 research participants 29 (24,6%) responded on this open question. These also constitute 100% of those who are aware of cartels in the industry.

Open answers have been grouped into following categories:

Switchgear and steering system – 13 respondents (44,8% of the answered and 11% of total)

Electric equipment – some answers were unclear, so this group can contain both, electric wholesalers and switch gear and steering system – 8 respondents (27,6% of the responded).

Cabling – 4 respondents (13,8%)

Electric transformer stations (also will be called *transformers*) – 4 answered (13,8%).

District heating – 2 respondents (6,9%).

Surface treatment – 2 respondents (6,9%).

2 answers (6,9%) were not specified (e.g., responses like ‘several areas’).

The total of these subgroups will give more than 100%, as some of the respondents listed several categories.

Awareness of suppliers that were involved in this practice

Of total 118 respondents 28 (23,7%) responded on this open question. These make 96,6% of those who are aware of cartels in the industry.

17 respondents (60,7% of the answered and 14,4% of the total) mentioned ABB and Siemens (of these once Siemens was mentioned without ABB).

Based on the provided answers following grouping of the awareness can be made:

EU-cases:

- cabling: STK (Nexans), KWO, Pirelli, Siemens – 3 respondents
- district heating: ABB++

Norway-cases:

- *switch gear and steering system*: ABB and Siemens
- *electric wholesalers*: ABB Distribution, Eilag, Solar, Elektroskandia, Berggård Amundsen
- *surface treatment*: without names (can indicate the names are not in the recall-list)
- *other*: Uniprotect and Proccorr, Horten Aluminium Conductors, REIME Jarlsberg, Alfr. Andersen

In the meanwhile, it is important to note that the fact that it was Norwegian cartels that were disclosed doesn't mean that same cartels didn't exist internationally. With market sharing, international cartels are indicative of local cartels, because then buyers search for suppliers internationally and don't get reply from any other geographical areas than Norway.

2 respondents (7,1% of the answered) indicated that they didn't want to specify the names. Together with the other one aware of cartels respondent who didn't answer the question at all this amounts to 10,3% of aware of cartels respondents who consciously refused to specify names. There will be no speculation on why, but one would assume that such information is important to provide in order to increase the general awareness in the industry, so that profitable procurement projects are possible to be carried out.

Awareness of how cartels were disclosed

Of total 118 respondents 26 (22%) responded on this question. These make 89,7% of those who are *aware* of cartels in the industry.

The methods of cartel disclosure are grouped in following categories:

- 1) *Konkurransetilsynet* and *EU-commission* – 8 (30,8% of the answered and 6,8% of the total) respondents
- 2) *The buyer's alertness* – 3 (11,5% of the answered and 2,5% of the total).
- 3) *Media investigation* – 2 (7,7% of the answered) respondents

Don't know 9 (34,6% of the answered and 7,6% of the total) respondents, so this was the most popular answer.

The high percent of responses about the Norwegian Competitive Authority and competitive authorities on the EU-level can indicate following:

- 1) *they could have been tipped off* by:
 - competitors
 - buyers
 - “whistleblowers” (own employees in cartel participating companies)
- 2) *they could have taken own initiative* after having realised that the market doesn't function.

The results show that buyers themselves have rather a little focus on the warning signals of cartels.

Sources of information

Of the total 118 respondents 27 (22,9%) responded. This is 93,1% of those who are aware of cartels.

Resources of information can be grouped into 3 categories:

- 1) *Internal sources* – 55,6% of the answered (12,7% of the total)

Information flow within the industry, colleagues, heads of departments, internal audit.

- 2) *Media* – 33,3% of the answered (7,6% of the total).

TV, radio, newspapers, Internet sources.

- 3) *Konkurransetilsynet* – 14,8% of the answered (3,4% of the total).

Awareness of how many suppliers are present in Norway within the cartel exposed field

Of the total 118 respondents less than a half (45,8%) responded.

12) Within the cartel exposed field, how many suppliers are present in Norway?

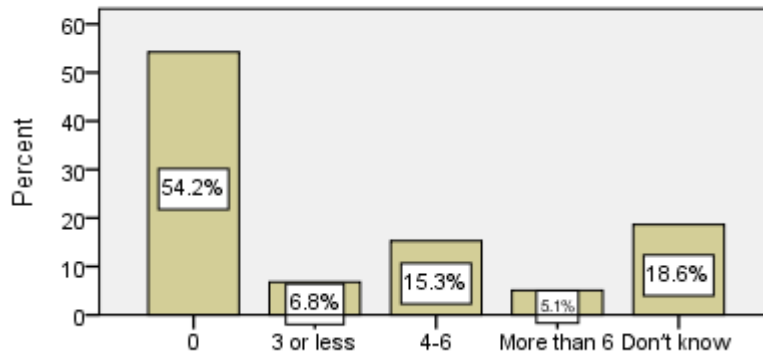


Figure 17. Suppliers in Norway within the cartel exposed field

Of these:

33,3% know that there are *4-6 suppliers* within the cartel exposed field in Norway (15,3% of the total).

14,8% know that there are *3 or less suppliers* (6,8% of the total).

11,1% know that there are *more than 6* (5,1% of the total).

40,7% *don't know* about that (18,6% of the total).

Awareness of how many suppliers are present in the EU within the cartel exposed field

Of the total 118 respondents 52 (44,1%) responded.

13) Within the cartel exposed field, how many suppliers are present in the EU?

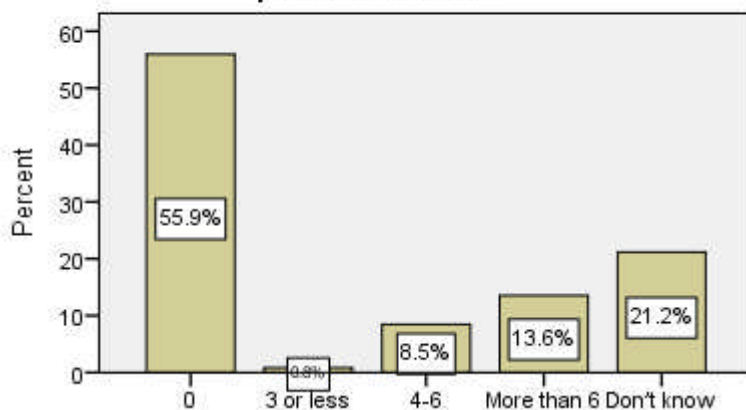


Figure 18. Suppliers in the EU within the cartel exposed field

Of these:

30,8% know that there are *more than 6 suppliers* within the cartel exposed field are present in the EU (13,6% of the total).

19,2% know that there are *4-6 suppliers* (8,5% of the total).

48% *don't know* about that (21,2% of the total).

Awareness of how many suppliers are present outside the EU within the cartel exposed field

Of the total 118 respondents 43,2% responded.

14) Within the cartel exposed field, how many suppliers are present outside the EU?

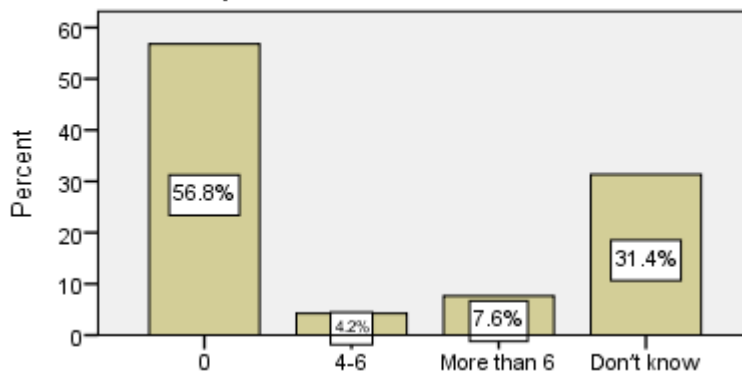


Figure 19. Suppliers outside of the EU/EEU within the cartel exposed field

Of these:

17,6% know there are more than 6 suppliers within the cartel exposed field are present outside the EU (7,6% of the total).

9,8% know that there are 4-6 suppliers (4,2% of the total).

72,5% *don't know* about that (31,4% of the total).

Comparison of knowledge about the markets:

Within the cartel exposed field, how many suppliers are present:

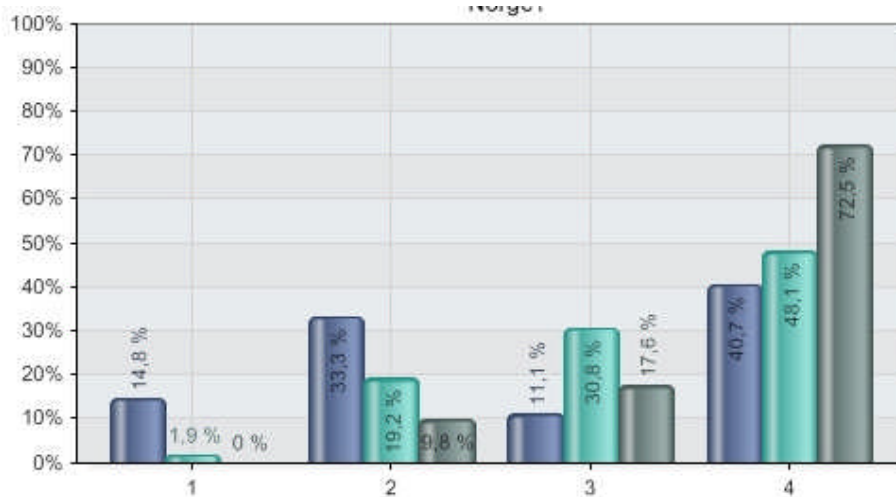


Figure 20. Suppliers in Norway / in the EU / outside the EU/EEA within the cartel exposed field

	In Norway ■	In the EU/EEA ■	Outside the EU/EEA ■
1 - 3 or less	14,8 %	1,9 %	0,0 %
2 - 4-6	33,3 %	19,2 %	9,8 %
3 - More than 6	11,1 %	30,8 %	17,6 %
4 - Don't know	40,7 %	48,1 %	72,5 %
Total respondents (N) in average 44,4%	54	52	51

The research shows that the biggest amount of the respondents don't know how many suppliers are present within the cartel exposed field in different geographical markets worldwide. The provided response indicate that few suppliers are present in Norway, compared to the EU/EEA. Another result is that the further from Norway, the less is known about the supplier market by the industry.

Awareness of cartels existence in the present in the industry

Almost one half of the total respondents, 49,2% *don't know* whether cartels might still exist. 11% provided a clear 'No'. 39,8% believe there might be cartels in the supplier market.

In spite of missing answers on the questions regarding cartel awareness, this result indicates that a lot of people in the industry are aware that cartels may still exist in the supplier market. This awareness should make the industry purchasers not only more conscious about warning signal from the market, but also of own choices.

Awareness of cartels existence in the present vs field of responsibility

Among those who *don't believe* that cartels still exist in the supplier market are technical executives – 7,6% of the total amount of the respondents and those who carry out both functions 3,4%. Commercial executives are not represented in this group.

Among those who *don't know* about it 21,2% are technical executives; 16,9% of those who carry out both functions, and only 11% of commercial executives.

In the 'Yes' group, the smallest part is represented by technical executives (8,5%), who share the company with those who carry out both functions (13,6%). The commercial executives represent the largest part (17,8%) in this category.

The results show that commercial executives in the procurement process

Behaviour

Whether the company continue purchasing from cartel participants

Of the total 118 survey participants 58 (49,2%) responded.

Of these 51,7% *still buy* from the cartel participants (25,4% of the total).

39,7% *don't know* about it (19,5% of the total) and 8,6 % (4,2% of the total) *don't buy* from those companies.

The biggest group among those who still buy (11,9%) are commercial executives (vs 7,6% technical and 5,9% those who carry out both functions). The non-buyers are 3,4% technicians and 0,8% of those who carry out both functions.

Routines

How many suppliers the executives invite when purchasing within the cartel exposed field

Of the total 118 respondents 63 (53,4%) answered.

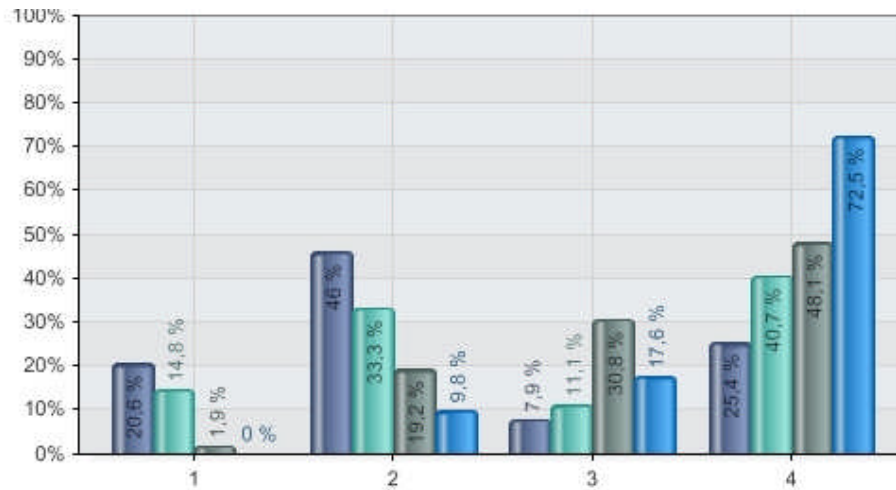


Figure 21. Comparison of in fact invited suppliers when purchasing within cartel exposed fields and beliefs on how many suppliers are available in these fields in different markets:

	In fact invited suppliers	Available in Norway	Available in the EU/EEA	Available outside the EU/EEA
1 - 3 or less	20,6%	14,8 %	1,9 %	0,0 %
2 - 4-6	46,0%	33,3 %	19,2 %	9,8 %
3 - More than 6	7,9%	11,1 %	30,8 %	17,6 %
4 - Don't know	25,4%	40,7 %	48,1 %	72,5 %
Total respondents (N)	63	54	52	51

The results show that buyers tend to narrow own choice to 3 or less suppliers (20,6%) or preferably 4-6 suppliers (46%). Only 7,9% ask more than 6 suppliers when purchasing within the cartel exposed field (this is almost one fourth of those who know that more suppliers exist in the EU, and less than half of those who know about more suppliers outside of the EU).

It was later received a comment (Q57) that for large procurement projects there are not so many suppliers available even internationally within the cartels exposed fields. Even doing so (i.e., going and inviting more international suppliers), the buyers cannot secure competition, because it may happen, that those newly asked may neglect submitting their bid. Whereas beliefs about vainness of inviting more suppliers may, attempts to do so can destabilise cartels and decrease entry barriers to sellers.

Organization of procurement process with regard to communication with the supplier

17) How do you organize procurement with regard to communication with the supplier?

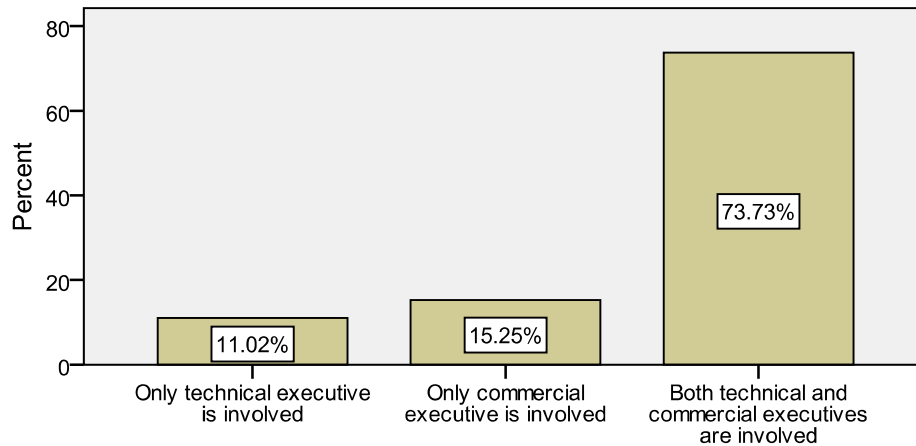


Figure 22. Organization of procurement process with regard to communication with the supplier

73,7% of the industry involve both, technical and commercial executives.

In 15,3% of the organizations only commercial executives are involved.

In 11% of the organizations only technical executives are involved.

This is a rather good result. Though, the fact that in some organisations only technical executives decide the outcome of the procurement indicates that their preferences will be the only determinant factor in the choice of the suppliers.

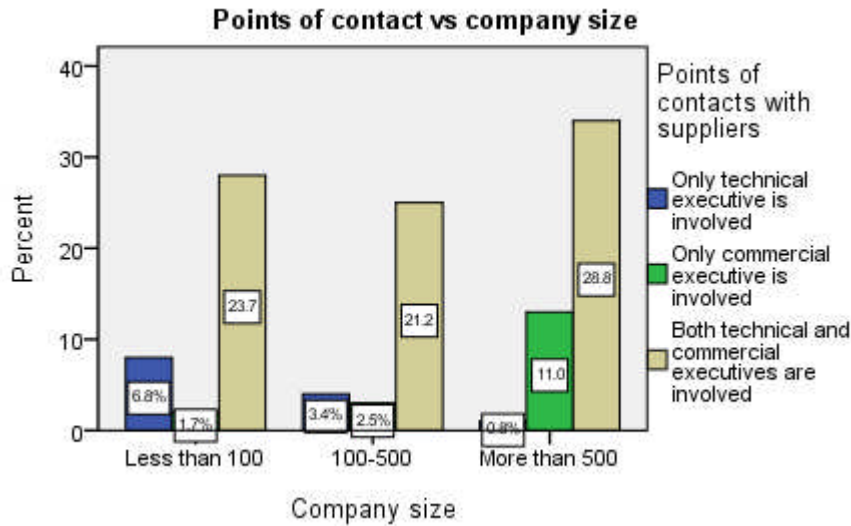


Figure 23. Points of contact vs. company size

While generally in the industry both commercial and technical dimensions are equally involved into communication with the supplier (73,7%), there are different tendencies for the rest of the industry. While the practice of involving only commercial dimension into contact with supplier is prevalent in large companies (11% of total 15%), only technical executives are involved into communication tasks with suppliers in small ones (10,2% of the total 11%).

At which stage commercial executive becomes involved in the procurement process

18) At which stage does the commercial executive become involved in the procurement process?

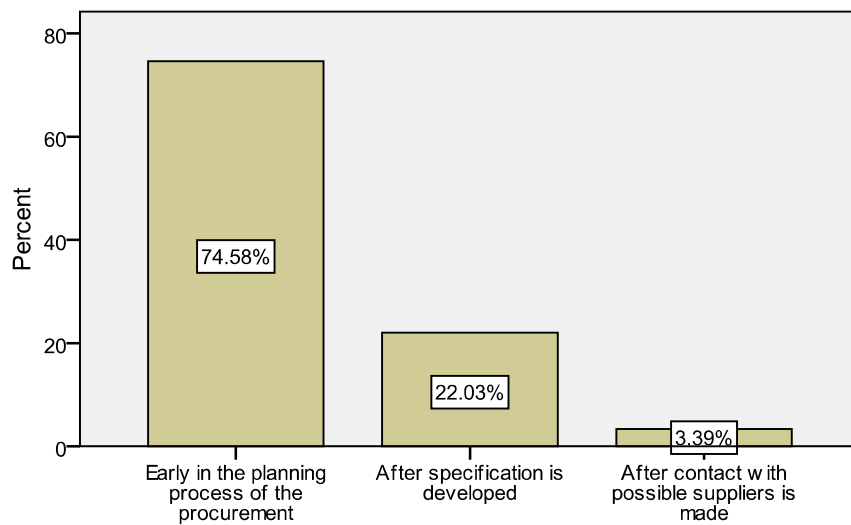


Figure 24. Involvement of commercial dimension into the procurement process

Almost one forth (22%) of the organisations involve commercial executives after specification is developed. 3,4% involve commercial executives after contact with possible suppliers is made.

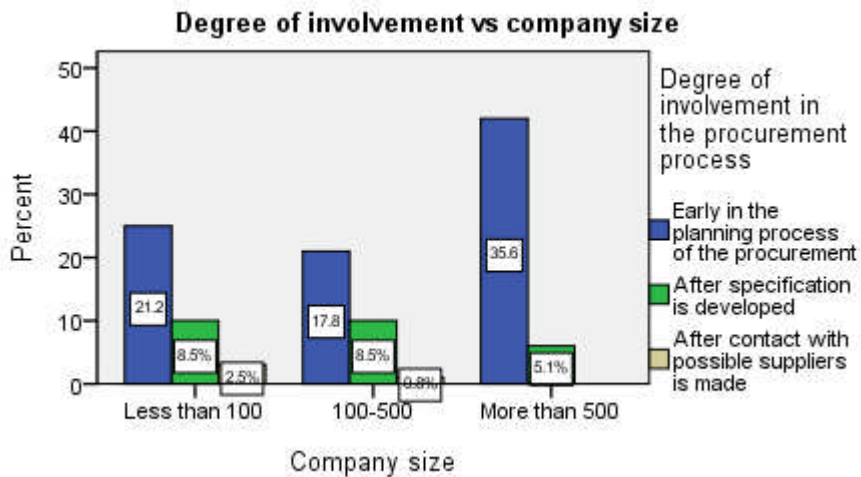


Figure 25. Degree of involvement of the commercial dimension vs. company size

The biggest part of those who involve commercial dimension early in the planning process are large companies (35,6% of the total 74,6%). They also have the lowest percent (5,1%) of those who develop specification before contacting commercial executive. Smaller companies let technical executives make contact with suppliers before the procurement becomes a part of planning on a higher level (3,3%).

The results show that ca in one forth of the organisations commercial dimensions are involved after specifications are developed. This indicates that technical executives might have more impact on the total outcome of the procurement process in those companies.

Supplier search routines

How many suppliers usually are on the bidder list

19) How many suppliers are usually on your bidders list?

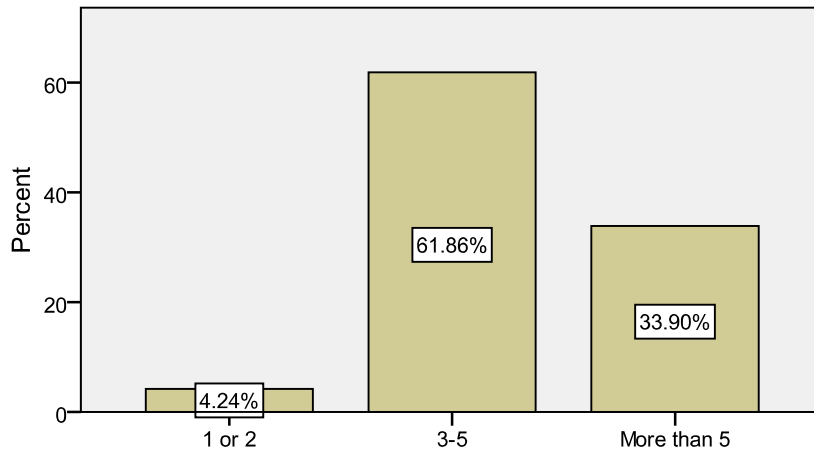


Figure 26. Amount of suppliers on the bidder list

Majority of the industry (61,9%) has 3-5 suppliers on their bidders list. One third (33,9%) attempts to broaden the market by inviting more than 5 suppliers to tenders.

How often different methods of selecting suppliers to bidder list are selected

20) How often do you select suppliers to your bidder list with:

Statistics

	a) Sellihca	b) Internet	c) Industry magazines	d) Visit to exhibitions	e) Other
N Valid	118	118	118	118	94
Missing	0	0	0	0	24
Mean	4.95	3.44	3.01	2.69	3.35
Median	6.00	3.00	3.00	3.00	3.00
Mode	7	3	3	3	1
Std. Deviation	2.033	1.692	1.561	1.317	2.174
Range	6	6	6	5	6
Minimum	1	1	1	1	1
Maximum	7	7	7	6	7

	Sellihca	Internet	Industry magazines	Visit to exhibitions	Other
1 <i>Never</i>	11,9%	16,1%	22,9%	22,0%	28,0%
2 <i>Very Rarely</i>	5,9%	13,6%	14,4%	22,0%	5,9%
3 <i>Rarely</i>	7,6%	30,5%	31,4%	35,6%	12,7%
4 <i>Don't know</i>	3,4%	4,2%	7,6%	7,6%	20,3%
5 <i>Frequently</i>	19,5%	24,6%	19,5%	10,2%	16,1%
6 <i>Very Frequently</i>	24,6%	7,6%	2,5%	2,5%	10,2%
7 <i>Always</i>	27,1%	3,4%	1,7%	0,0%	6,8%

Sellihca is one of the most frequently employed sources in the industry for supplier selection when purchasing above the EEA threshold value (71,2% of the industry uses it from Frequently to Always, Median=6, 'Very Frequently'; Mean=4,95 'Frequently'), while 25,1% of the industry uses *Sellihca* from Never (11,9%) to Rarely.

Sellihca is also the only *legal* source of supplier **selection** among the provided in this question (as the other one, as we know, is *Doffin*). Other alternatives can still be used in order to **search** for suppliers in case they are not registered in the industry database.

Remaining sources as sources of **supplier search** are placed in decreasing order: *Internet* (used by 35,6% from Frequently to Always, Mean=3,44, between 'Rarely' and neutral position, Mode=3 'Rarely'), *Industry magazines* (used by 23,7% from Frequently to Always, Mean=3,01 'Rarely', Mode=3), *Visit to exhibitions* (used by 12,7% from Frequently to Always, Mean=2,69, between 'Very Rarely' to 'Rarely'). Large std. deviations indicate that there is much variation from the mean values on all of the listed sources.

All the listed sources can be used for supplier search as long as the found suppliers become encouraged to register in *Sellihca* for a later phase of supplier selection for tendering. Thus, as all sources are valid in a long term perspective.

When it comes to use of "*Other*" 33,1% of the industry uses these sources from Frequently to Always, which make them third most popular alternative to supplier search. As only 46 respondents (39%) further specified the content of this variable, those who did not respond were treated as missing. Again, for the procurement projects **above the EEA** threshold value, the received answers can be classified as legal and illegal, if they were provided as sources of supplier selection.

Legal sources for supplier selection:

- Use of the company's purchasing department/ commercial executives – 10,9% of the responded

As this alternative could be provided only by technical executives, the fact that technical executives rely on their colleagues from the commercial department when searching for suppliers is a good sign, given that the commercial executives use right means of supplier selection.

- Use of general agreements/ purchasing agreements; also of those entered in cooperation with other energy companies – 6,5%

This alternative could be provided either by technical executives or by representatives of smaller companies that carry out procurement projects collectively with bigger companies. This routine secures that some of illegal activities doesn't happen (for example, direct procurement from sympathised suppliers even though a contract that covers same demand already exists).

- Use of prequalification system – 10,9%

This alternative is assumingly provided by those technical executives, who are not regularly involved into the purchasing process, because the only legal prequalification system in the industry is Sellihca.

- Use of Doffin, TED – 6,5%

The last two alternatives indicate that at least part of the respondents understood the question correctly and use legal sources for supplier selection. In the meanwhile, use of Doffin can be checked by scrutinizing Doffin's database, which due to time limitations will not be focused on in this paper.

Illegal sources for supplier selection:

- Recommendations and references – 32,6%
 - o from colleagues
 - o from other companies in the industry
 - o from companies in other industries
 - o from other contacts in the industry
 - o from hired consultancy companies
- Use of familiar suppliers/ through a long-time cooperation with different suppliers – 21,7%
- Use of local suppliers – 4,3%
- Use of other supplier databases – 4,3%
- Through direct contacts with suppliers – 4,3%

One response stated *direct contact if there is only one supplier*. This is a *legal procedure* of supplier selection given there is only one supplier on the market. In cases there are more suppliers available on the market, a detailed explanation of the choice must be provided to the competition authorities.

Networking, preference of local suppliers, and other forms for search for suppliers are extensively used in the industry. While some specialists try to use internal networks in the

industry, others rely on own experience and direct contacts with suppliers, which brings negative consequences for the whole industry.

System routines

Whether the executives encourage new suppliers to register in Sellihca

23) Do you encourage suppliers that are not in Sellihca to register there?

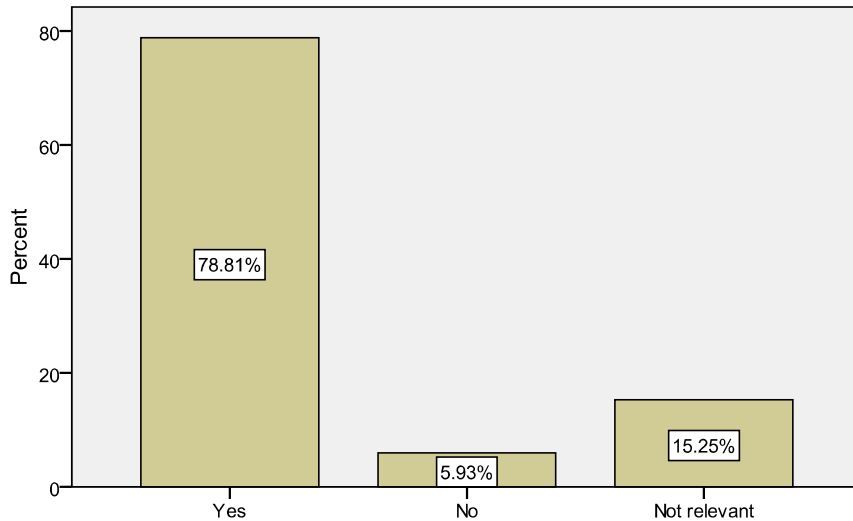


Figure 27. Encouragement of new suppliers to register in Sellihca

Ca 6% *don't encourage* perspective suppliers to register in Sellihca, while majority of the industry take an active position in this matter and broaden supplier database (78,8%).

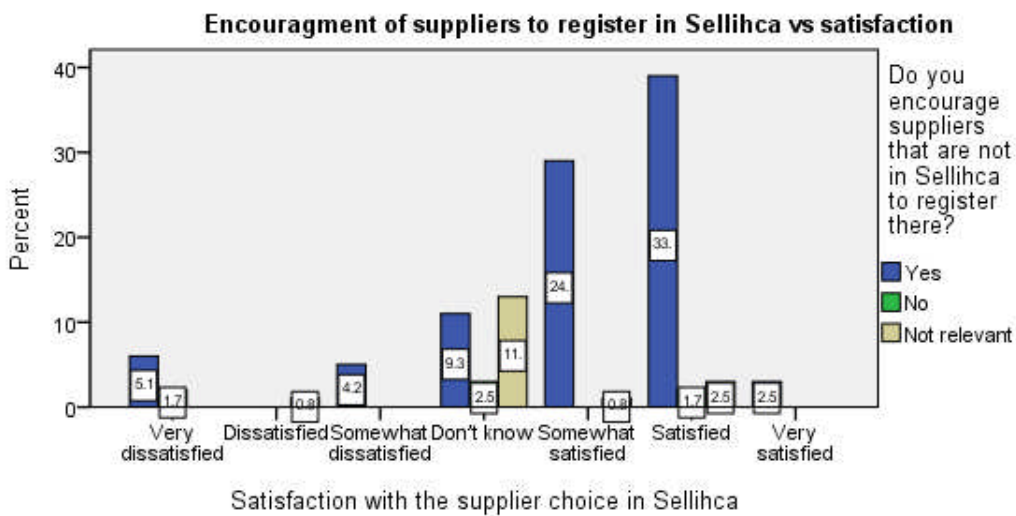


Figure 28. Encouragement of new suppliers to register in Sellihca vs. satisfaction with Sellihca

Those who *do* encourage suppliers to register in Sellihca have different levels of satisfaction with the database. The biggest group of the encouragers, 60,2%, are those whose satisfaction with Sellihca vary from somewhat satisfied to very satisfied. On the other hand, 9,3% of the total of the respondents are those whose satisfaction vary from somewhat dissatisfied to very dissatisfied, and they also encourage suppliers to registration. 9,3% of the total of the respondents have no opinion about Sellihca and still encourage the suppliers to register.

Relatively even inconsiderably small groups of those who *don't* encourage are to be found in the groups of very dissatisfied, satisfied and having no opinion about Sellihca.

It lets us make conclusion that generally, the industry takes an active position in expanding the Sellihca database.

How often the executives publish requests for information (RFIs) in Doffin/TED

Because 17% of the respondents chose “Don’t know” as the answer alternative on this question, it was decided to treat these responses as missing values in order to see any trends (N=98).

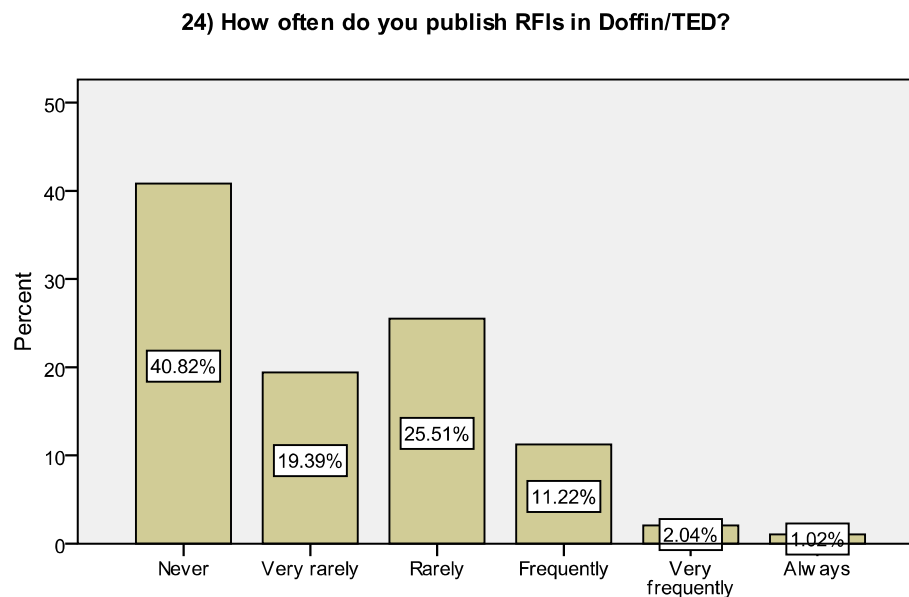


Figure 29. Announcement of tenders in Doffin/TED

The biggest share of the industry, 85,7%, don't take an initiative to publish RFIs in Doffin/TED and do it from *never* to *rarely*.

14,3% mean that they visit Doffin/TED in order to publish RFIs from *frequently* to *often*. This is a surprising result, because it is not a requirement in the industry to do that.

Since earlier results show that 25,4% of the respondents never or rarely use Sellihca, it would be logical to assume that those, who *don't use* Sellica, use Doffin for supplier selection. When we crosstab the data (N=118 on both), only 4% of those who use Sellihca from never to rarely use Doffin/TED from frequently to always. Another result is that 18,4% use *either* of the methods of announcements of competition from never (7,6%) to rarely. This is a very interesting **result for** purchases over the EEA threshold value for **all executives** involved into the procurement process.

Performing the same crosstab analysis on commercial executives and those who carry out both functions (N=74) shall provide more sound results, as these executives deal with announcements on a daily basis. In this case this 2,8% of those who use Sellihca from never to rarely use Doffin/TED from frequently to always, and 9,6% use *either* of the methods of announcements of competition from never (2,7%) to rarely.

7,5% of all executives inform that they use both systems in order to announce tenders and search for suppliers from frequently to always. This is also a rather interesting result.

How often the executives announce contract awards in Doffin/TED

40% respondents answered "Don't know" on this question. Since 37,3% of them are technical executives, and this routine is not directly connected to search for suppliers, it is expected that commercial executives and those who carry out both functions are relevant respondents on this type of information (N=74). When done that, the structure of answers remained the same.

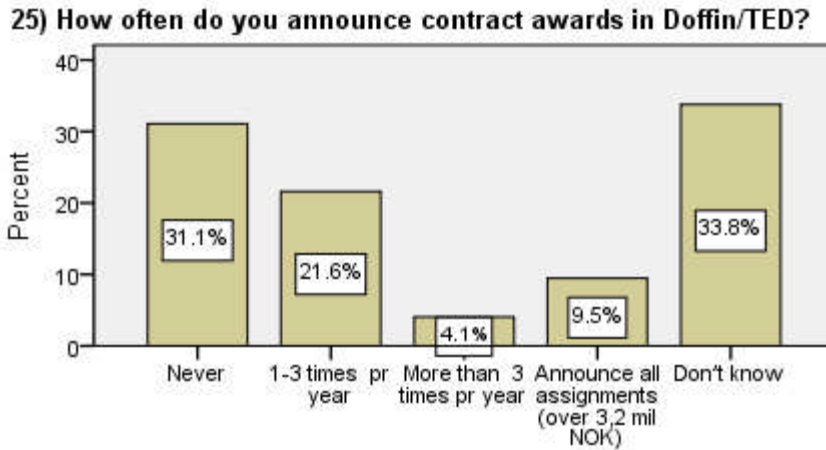


Figure 30. Announcement of contract awards in Doffin/TED

33,8% of commercial executives and those who carry out both functions Don't know whether contract awards become announced in Doffin/TED. 31,1% of these executives never does so.

The crosstab with field of responsibility shows that commercial executives (27,1%) take more action in announcing contact awards in Doffin that those who carry out both functions (8,2%).

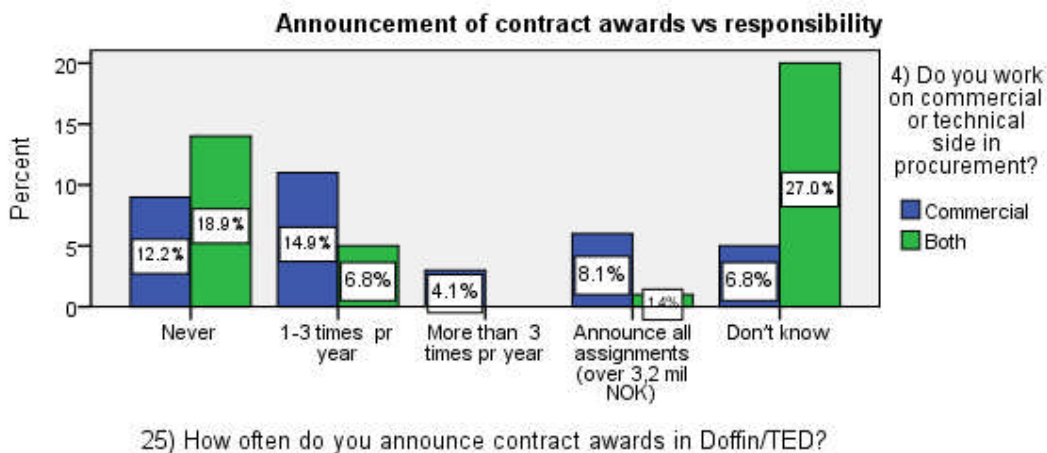


Figure 31. Announcement of contract awards vs. responsibility (N=74 – commercial executives and those who carry out both functions)

The crosstab with field of responsibility in procurement on all the respondents (N=118) shows that answers provided by those who carry out both functions in the purchasing process are very much alike to those provided by the technical executives.

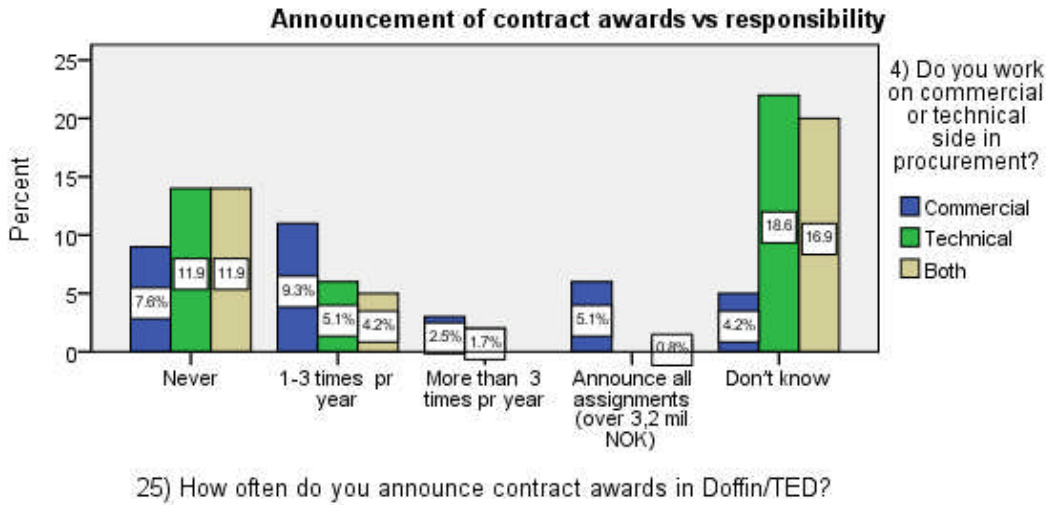


Figure 32. Announcement of contract awards vs. responsibility (N=118 – all three groups of executives)

It is expected that small companies (less than 100 employees) announce contracts relatively seldom, 1-3 times pr year, the medium-sized companies (100-500 employees) should announce contracts relatively often, more than 3 times pr year, and big companies are expected to always announce awarded contracts.

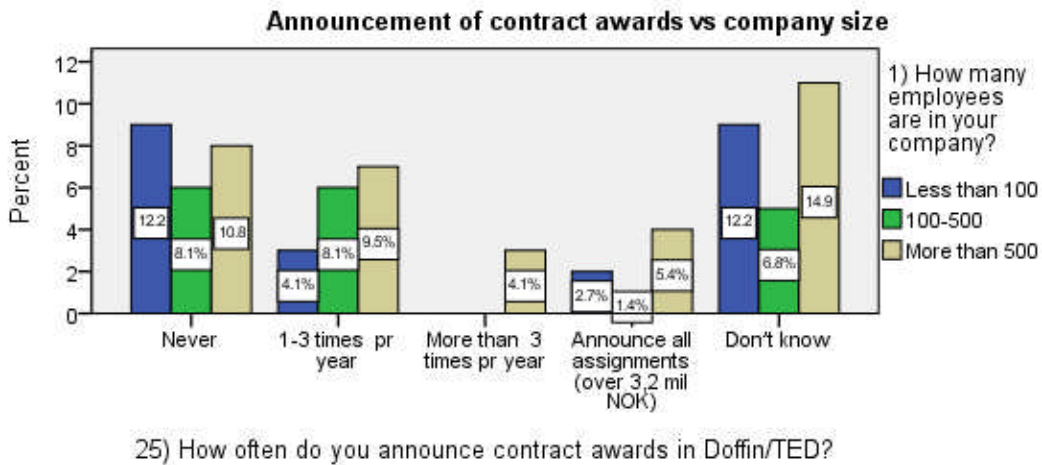


Figure 33. Announcement of contract awards vs. company size (N=118)

When we look at the results (N=74), we see that this is not exactly the case. Large companies are represented in all groups. Whereas they yield to small companies in the group where the routine is not followed, they announce contract awards more frequently than others. Surprisingly, they have more executives who don't know about that than companies

of other sizes. This result may be interpreted ambiguously. First, it may indicate that not all of those who indicated that they represent commercial dimension in procurement actually do so. As a rule, these people are representatives of internal company customers and should have indicated themselves as technical executives in procurement process. Second, it may indicate that routines regarding announcement in Doffin/TED are not at place. The second proposition is to be checked further.

Whether the company has an internal procedure that ensures that contract awards become announced in Doffin/TED

In order to check whether those who carry out both functions will have same structure of answers as technical executives, this outcome will be analyzed on all the three groups of respondents (N=118).

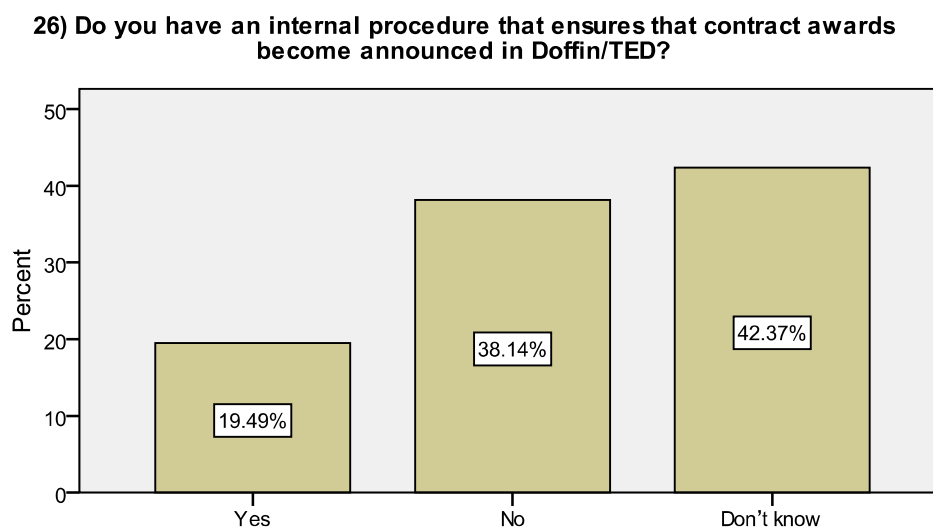


Figure 34. Procedure for announcement of contract awards in Doffin/TED

42,7% of the respondents *don't know* about such procedures. It is expected that only technical executives and those who carry out both functions in the company make this category. When checking on the field of responsibility, we see that this *is* the case (see Figure below).

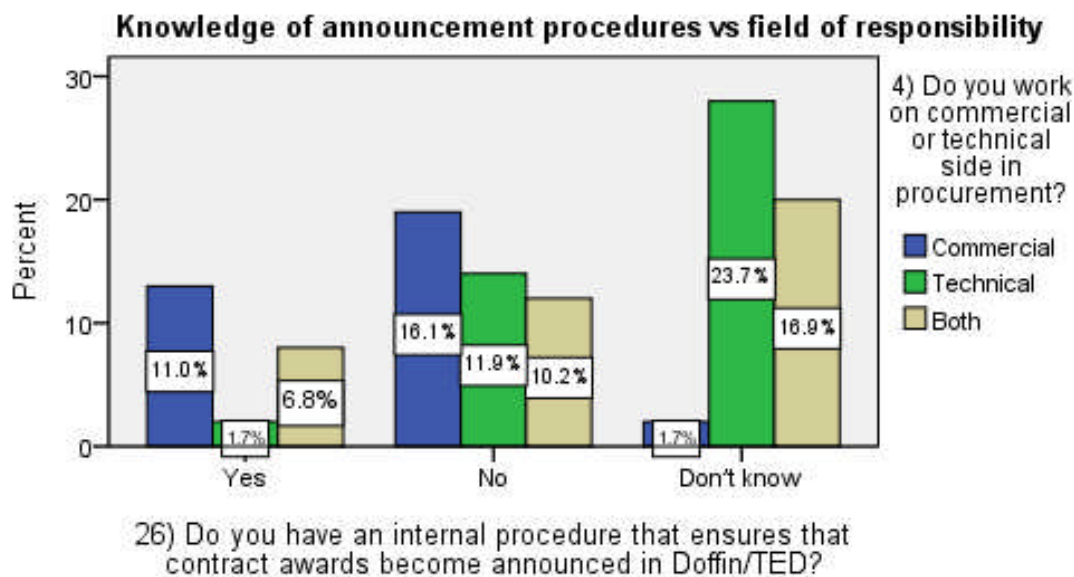


Figure 35. Knowledge of announcement procedures vs. field of responsibility

Negative reply is still prevailing one among those who provided any answer on this question. Of these 26,3% commercial executives constitute 16,1% and those who carry out both functions – 10,2%. If technical executives (and those who carry out both functions) are to be excluded from the analysis, the picture is somewhat more optimistic. The result indicates that generally not many companies have internal procedures that would ensure that contract awards with value above the EEA threshold become announced in Doffin/TED database.

Relationships with suppliers

Descriptive statistics sum up the data on Q32a-Q32c. More data will be analyzed from frequency tables not presented here.

How often do you invite suppliers from:
Statistics

		32a) Norway?	32b) EU?	32c) outside the EU?
N	Valid	118	118	118
	Missing	0	0	0
Mean		6.00	4.00	2.26
Median		6.00	5.00	2.00
Mode		7	5	1
Std. Deviation		.987	1.739	1.368
Range		4	6	5
Minimum		3	1	1
Maximum		7	7	6

Suppliers from Norway

How often the company invites to tenders suppliers from Norway

96,6% of the respondents' answers vary from Frequently to Always (Mean=6 lies on alternative Frequently). Of these 40% always invite suppliers from Norway (Mode=7 indicates that this is the most popular answer). St. deviation 0,987 indicates that the data are clustered closely around the mean.

0,8% answered Don't know (Minimum) and only 2,5% rarely use Norwegian suppliers.

Suppliers from the EU

How often the company invites to tenders suppliers from the EU

50,9% answers vary from Frequently to Always, and 41,5% - from Never to Rarely. Almost equal shares of respondents (Mean=4). 7,6% of the respondents *don't know* about it. This value is small enough to treat it together with the rest of the data.

The most popular answer, 29,7% is Frequently (Mode=5). This, on the other hand, is almost counterbalanced by 20,3% of those who answered Rarely.

A large st. deviation 1,739 and range 6 indicate that the data points are relatively equally dispersed far from the mean.

International suppliers from outside of the EU/EEA

How often the company invites to tenders international suppliers from outside of the EU

82,2% - from Never to Rarely. 7,6% from Frequently to Very Frequently (Maximum=6). The data are considerably skewed into negative position (Mean=2,26) with Never as the most popular answer, 42,4% (Mode=1). 10,2% Don't know. This value is small enough to be treated with the rest of the data.

St. deviation 1,368 indicates that the data points are dispersed far from the mean (the effect of relatively considerable amount of those who answered Don't know).

Behaviour in the past and experience with suppliers from outside of the EU/EEA

Descriptive statistics sum up the data on Q28, Q30 and Q31.

		Statistics		
		28) Have you ever purchased from other countries than the EEA?	30) Do you still invite these suppliers to tenders?	31) Do you invite suppliers from outside the EEA?
N	Valid	118	118	118
	Missing	0	0	0
	Mean	1.77	.68	.82
	Median	2.00	.00	.00
	Mode	2	0	0
	Std. Deviation	.576	.977	1.075
	Range	2	3	3
	Minimum	1	0	0
	Maximum	3	3	3

Whether the company has ever purchased from international suppliers from outside of the EEA

61,9% of the respondents answered 'No'; 30,5% - answered 'Yes', and 7,6% - don't know about it.

These data indicate that more than a half of the respondents has never purchased from suppliers outside of the EEA.

*In order to analyze consistency of the data, only those who **had** experience with suppliers from the EEA in the past will be analyzed in the following three categories (30,5% of the total respondents), while other replies will be treated as missing. The reason for data inconsistency is that these questions were non-obligatory and the respondents who answered 'No' or 'Don't know' could fill them out by inertia from previous obligatory questions. In the meanwhile, it was meant to see how previous experience affects the buyer behaviour in the present. Therefore, only those who said 'Yes' are relevant for the analysis.*

How did the deliveries work

Following data were gathered:

[Product]

11,1% experienced that the product was poor (3,4% of the total).

36,1% experienced that the product was according to the agreement (11% of the total).

[Delivery]

13,9% experienced a delay in delivery (4,2% of the total).

58,3% experienced that the delivery was according to the agreement (17,8% of the total).

[Other]

22,2% provided following comments (6,8% of the total):

Negative:

- at times missing quality
- mistake with fastening and stability
- insecure documentation on quality

Neutral:

- the delivery required a tight follow-up
- sometimes good and sometimes bad
- these are sub-suppliers to Norwegian suppliers
- it is needed a thorough control of quality

For some respondents the experience was new and they haven't experienced any consequences of their choice *yet*. Following comment was provided **by the respondent who hasn't had any experience:**

- let the intermediaries take care of these

Almost 60% are satisfied with delivery terms, and ca half of those who have bought from outside of the EEA found the product according to the agreement. Among the provided comments, the main reasoning towards scepticism was quality concern and the suppliers' ability to document it. The buyers prefer to have international suppliers as sub-suppliers to Norwegian suppliers and let others take risks and solve problems leading to insecurity of deliveries.

*Behaviour in the present***Whether the company still invites to tenders same suppliers from other countries than the EEA that they earlier had as bidders**

72,2% still invite same suppliers to tenders, 13,9% don't invite the suppliers, 13,9% Don't know.

The amount of those who invite same suppliers is higher than the share of those who was clearly satisfied with the delivery. It means that even those who didn't have positive experience are willing to give the suppliers a chance in next tenders. The results show that positive experience still plays an important role in attitude formation.

Whether the company invites to tenders new suppliers from other countries than the EEA

66,7% invite other suppliers from outside the EEA, 19,4% don't invite new suppliers, and 13,9% Don't know.

The amount of those who dare to take the risk and invite totally new suppliers from outside the EEA is a little smaller in this case. Still, the difference (5,5%) is so inconsiderable that it let us draw conclusion that a once the executive had experience with such a routine, it is a bigger chance he or she will continue with this routine in the future.

[Local presence]

Routine of entering into a contract with a foreign supplier, which is not established in Norway

45,8% answered Don't know (Max=3; Mode=3). Of these 51,9% are technical executives and 37% carry out both functions. Those who provided such an answer were excluded from the analysis.

4) Do you work on commercial or technical side in procurement? * 45) When you enter into a contract with a supplier that doesn't have a Norwegian registration number, how do you do it? Crosstabulation

		45) When you enter into a contract with a supplier that doesn't have a Norwegian registration number, how do you do it?		
		Directly	Through a Norwegian representative	Total
4) Do you work on commercial or technical side in procurement?	Commercial	29.7%	14.1%	43.8%
	Technical	4.7%	20.3%	25.0%
	Both	7.8%	23.4%	31.3%
	Total	42.2%	57.8%	100.0%

57,8% of the industry enter into a contract through a Norwegian representative (Min=1) and 42,2% enter into contracts directly. The biggest part in the latter group constitute commercial executives, while technical executives and those who respondents carry out both functions

prefer to enter into contracts through a Norwegian representative (20,3% and 23,4% correspondingly).

1) How many employees are in your company? * 45) When you enter into a contract with a supplier that doesn't have a Norwegian registration number, how do you do it? Crosstabulation

% of Total

		45) When you enter into a contract with a supplier that doesn't have a Norwegian registration number, how do you do it?		Total
		Directly	Through a Norwegian representative	
1) How many employees are in your company?	Less than 100	4.7%	18.8%	23.4%
	100-500	9.4%	20.3%	29.7%
	More than 500	28.1%	18.8%	46.9%
Total		42.2%	57.8%	100.0%

28,1% of those who enter into contracts with foreign suppliers directly are big companies.

39,1% of those who enter into contracts with foreign suppliers through a Norwegian representative are small and medium-sized companies.

The results show that the industry prefers to enter into contracts through a Norwegian representative.

The most conservative part of these are technical executives and those who carry out both functions. Even though commercial executives in big companies are more open to the international market, an equally big amount of technical representatives in those companies are sceptical and drag the rates down even there.

Part of the existing suppliers which don't have a Norwegian registration number and

Part of foreign contracts in total purchases in volume

Because it is assumed that technical executives are not supposed to have accurate data on these clearly commercial questions, answers given by them were excluded from the analysis of Q46 and Q47. Further, all respondents that answered *Don't know* were excluded (29,7% - Q46 and 32,4% - Q47) in order to see pattern of data from those who know the answers on these questions.

		Statistics	
		46) How many of your suppliers don't have a Norwegian registration number, ca?	47) What part in total purchases in volume have foreign contracts, ca?
N	Valid	52	50
	Missing	22	24
Mean		2.10	2.80
Median		2.00	2.50
Mode		1	1
Std. Deviation		1.332	1.552
Range		4	4
Minimum		1	1
Maximum		5	5

Part of the existing suppliers which don't have a Norwegian registration number

For 73% of the industry, suppliers that don't have a Norwegian registration number constitute up to 5% of their supplier database. 44,2% of these make up *Less than 1%* of their suppliers in total (Min=1, Mode=1). Only for 11,5% of the industry suppliers without Norwegian registration number constitute *More than 20%* of the supplier database (Maximum=5).

When we crosstab with the size of the company, we see that small and medium-sized companies are those who buy the least from the foreign suppliers directly – they make 43,9% of the whole industry whose database of foreign suppliers without a Norwegian registration number is up to 5%. Big companies, on the other hand, are those who buy from foreign suppliers directly. For 13,6% such suppliers constitute 6-20% of the database and for 9,6% these suppliers make more than 20% of the whole supplier database.

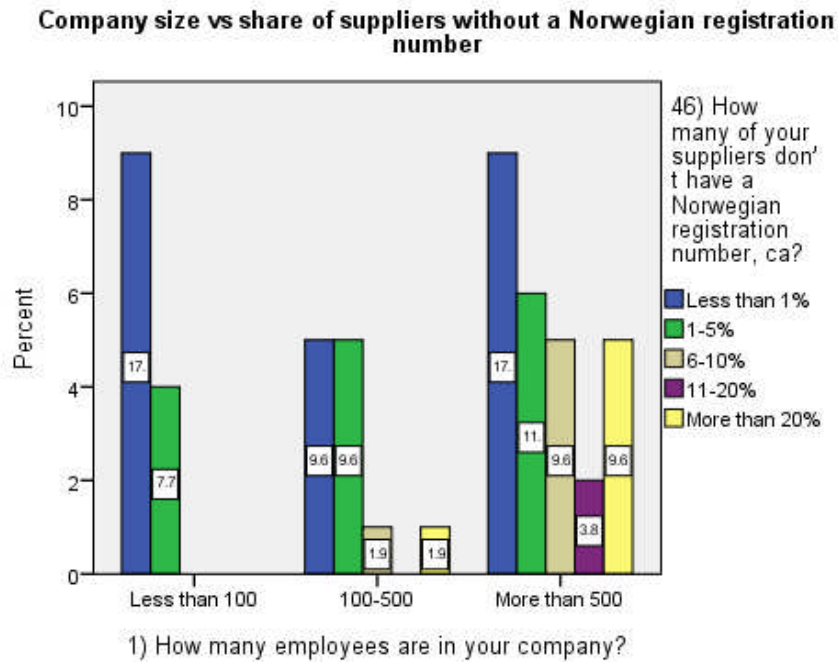


Figure 36. Company size vs. share of suppliers without a Norwegian registration number

Part of foreign contracts in total purchases in volume

For 50% of the industry, foreign contracts constitute up to 5% of the purchase volume. The other half relatively even dispersed around other shares of volume, making in total 26% of the industry in which foreign contracts constitute up to 20% of the purchase volume. For one fourth of the industry, 24%, these contracts constitute *More than 20% of the whole volume purchase*.

When we crosstab with the size of the company, we see that for largest part (16%) of small companies (less than 100 employees) volume of foreign contracts is less than 1%, while for largest part (18%) of big companies (more than 500 employees) volume of contracts is more than 20%.

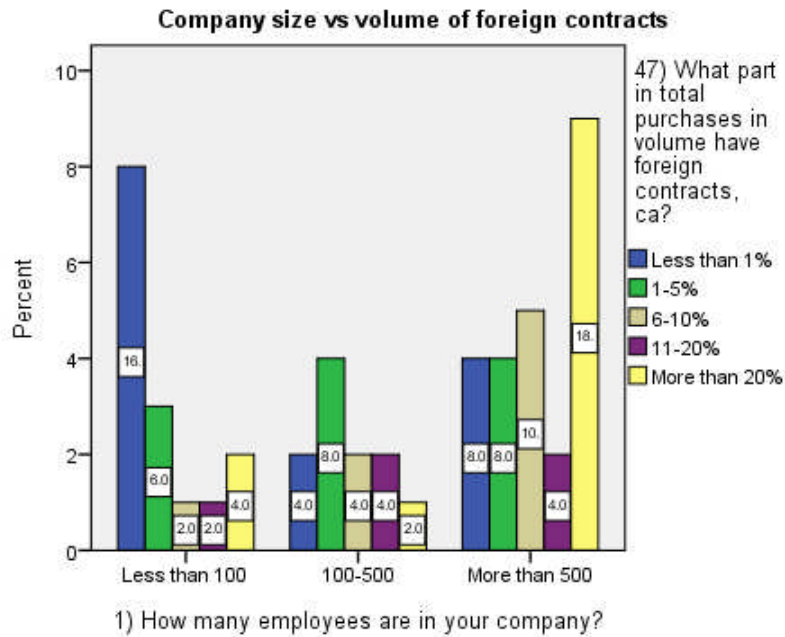


Figure 37. Company size vs. volume of foreign contracts

These results indicate that according to Pareto principle (also known as the 80-20 rule), which states that roughly 80% of the effects come from 20% of the causes (Bunkley 2008), foreign suppliers constitute a little share in the supplier database, but make a bigger volume in purchases.

Request for quotation (RFQ)

Whether the company use templates when preparing requests for quotation.

83,9% of the industry use templates for RFQs. 11% a clear 'No' and 5,1% don't know about it. Because this and the following questions are the questions, to which commercial executives and those who carry out both functions have a better knowledge, *technical executives were excluded from the analysis* (N=74, 62,7% of the total). Though, this didn't have a much expected great effect. 89,2% of the industry use templates for RFQs. 8,1% a clear 'No' and 2,7% don't know about it.

**1) How many employees are in your company? * 34) Do you use templates when preparing RFQs?
Crosstabulation**

% of Total

		34) Do you use templates when preparing RFQs?			Total
		Yes	No	Don't know	
1) How many employees are in your company?	Less than 100	24.3%	5.4%	1.4%	31.1%
	100-500	21.6%	2.7%		24.3%
	More than 500	43.2%		1.4%	44.6%
Total		89.2%	8.1%	2.7%	100.0%

Big companies have the biggest share of those who use templates (43,2%) and the least share of those who don't (0,8%). 10,2% of small and medium-sized companies don't use templates.

**1) How many employees are in your company? * 34) Do you use templates when preparing RFQs?
* 4) Do you work on commercial or technical side in procurement? Crosstabulation**

% of Total

				34) Do you use templates when preparing RFQs?			Total
				Yes	No	Don't know	
Commercial	1) How many employees are in your company?	Less than 100	20.6%			20.6%	
		100-500	20.6%	5.9%		26.5%	
		More than 500	52.9%			52.9%	
	Total	94.1%	5.9%		100.0%		
Both	1) How many employees are in your company?	Less than 100	27.5%	10.0%	2.5%	40.0%	
		100-500	22.5%			22.5%	
		More than 500	35.0%		2.5%	37.5%	
	Total	85.0%	10.0%	5.0%	100.0%		

Commercial executives and those who carry out both functions are responsible for preparing RFQs that is why we look at the tendencies closer from this point. The results show that in big companies those who use templates most often are 52,9% commercial executives and 35% of those who carry out both functions. Only 5,9% of commercial executives in medium-sized companies don't use templates. 10% of those who carry out both functions in small companies don't use templates when preparing RFQs.

So, generally companies have a system with internally developed standards for RFQs. Though, when it comes to questionable results in small companies, they can be explained with relatively seldom need in large procurements (which could still be relevant to all types of the procurements). Around 6% of medium-sized companies have a space for improvement.

Whether there have been made changes in *templates* for RFQs the last two years

34) Do you use templates when preparing RFQs? * 35) Have you the last 2 years made changes to the following?: - in templates for RFQs Crosstabulation

% of Total

	35) Have you the last 2 years made changes to the following?: - in templates for RFQs			Total	
	Yes	No	Don't know		
34) Do you use templates when preparing RFQs?	Yes	78.4%	5.4%	5.4%	89.2%
	No	1.4%	5.4%	1.4%	8.1%
	Don't know	1.4%		1.4%	2.7%
Total		81.1%	10.8%	8.1%	100.0%

Of those who use templates 78,4% have updated them the last two years, 5,4% didn't update.

1) How many employees are in your company? * 35) Have you the last 2 years made changes to the following?: - in templates for RFQs * 4) Do you work on commercial or technical side in procurement? Crosstabulation

% of Total

4) Do you work on commercial or technical side in procurement?	1) How many employees are in your company?	35) Have you the last 2 years made changes to the following?: - in templates for RFQs			Total
		Yes	No	Don't know	
Commercial	Less than 100	17.6%	2.9%		20.6%
	100-500	20.6%	2.9%	2.9%	26.5%
	More than 500	52.9%			52.9%
	Total	91.2%	5.9%	2.9%	100.0%
Both	Less than 100	22.5%	12.5%	5.0%	40.0%
	100-500	17.5%	2.5%	2.5%	22.5%
	More than 500	32.5%		5.0%	37.5%
	Total	72.5%	15.0%	12.5%	100.0%

Of those who updated the templates, the absolute majority are big companies, with 52,9% on the commercial executives' side and 32,5% on the side of those who carry out both functions. Of those who did not update the templates are small and medium-sized companies (12,5% of those who carry out both functions in small companies is the biggest representative part of them).

Standards and Specification

Both commercial and technical executives have power on deciding which technical description will be finally presented in the RFQ. If technical executives are responsible for developing of the specifications, commercial executives are the ones who check that the specifications do(n't) repeat the existing contracts and are not supplier specific (which is against the law). Therefore, all responds will be analyzed (N=118, 100%).

Whether there have been made changes in *technical descriptions* the last two years

4) Do you work on commercial or technical side in procurement? * 35) Have you the last 2 years made changes to the following?: - in technical descriptions Crosstabulation

% of Total

	35) Have you the last 2 years made changes to the following?: - in technical descriptions			Total
	Yes	No	Don't know	
4) Do you work on Commercial	21.2%	1.7%	5.9%	28.8%
commercial or technical side Technical	26.3%	6.8%	4.2%	37.3%
in procurement? Both	26.3%	4.2%	3.4%	33.9%
Total	73.7%	12.7%	13.6%	100.0%

73,7% of the industry have made changes in technical descriptions the last 2 years. These are relatively equally dispersed among all the three groups of the executives.

1) How many employees are in your company? * 35a) Have you the last 2 years made changes to the following?: - in technical descriptions Crosstabulation

% of Total

	35) Have you the last 2 years made changes to the following?: - in technical descriptions			Total
	Yes	No	Don't know	
1) How many employees Less than 100	19.5%	8.5%	4.2%	32.2%
are in your company? 100-500	18.6%	3.4%	5.1%	27.1%
More than 500	35.6%	8%	4.2%	40.7%
Total	73.7%	12.7%	13.6%	100.0%

The biggest share of those who have made changes in technical descriptions is on the big companies (more than 500 employees), 35,6%. The rest is evenly divided between medium-sized and small companies. Big companies are also in the minority among those who provided negative answer.

1) How many employees are in your company? * 35b) Have you the last 2 years made changes to the following?: - in technical descriptions * 4) Do you work on commercial or technical side in procurement? Crosstabulation

% of Total

4) Do you work on commercial or technical side in procurement?	35) Have you the last 2 years made changes to the following?: - in technical descriptions			Total	
	Yes	No	Don't know		
Commercial	1) How many employees are in your company? Less than 100	11.8%	2.9%	5.9%	20.6%
	100-500	17.6%	2.9%	5.9%	26.5%
	More than 500	44.1%		8.8%	52.9%
Total	73.5%	5.9%	20.6%	100.0%	
Technical	1) How many employees are in your company? Less than 100	20.5%	11.4%	2.3%	34.1%
	100-500	22.7%	4.5%	4.5%	31.8%
	More than 500	27.3%	2.3%	4.5%	34.1%
Total	70.5%	18.2%	11.4%	100.0%	
Both	1) How many employees are in your company? Less than 100	25.0%	10.0%	5.0%	40.0%
	100-500	15.0%	2.5%	5.0%	22.5%
	More than 500	37.5%			37.5%
Total	77.5%	12.5%	10.0%	100.0%	

In big companies, the biggest share of those who strive for update in technical descriptions two groups are represented the most, the commercial executives, 44,1%, and those who carry

out both functions, 37,5%. In small and medium sized companies the majority of those who provided negative answers, are technical executives, 15,9%, and those who carry out both functions, 12,5% (small companies stand out in this case). The technical executives that provided positive answer are evenly represented in companies of all sizes, which means that their attitude are stable despite of the company size.

How often different standard terms of contract are used

Because this questions are the question only commercial executives and those who carry out both functions can answer, we exclude technical executives from the analysis (N=74, 62,7% of the total). Further, all answers Don't know were treated as missing – in order to see a pattern.

36) How often do you use following standard terms of contract?:

Descriptive Statistics

	a) NL01	b) AKB1988	c) AKS89	d) AIS89	e) Fidic, Orgalime, ICC	f) NS	g) Kolemo	h) SSA, IKT	i) In-house terms of contract	j) Other
N Valid	45	48	42	42	42	61	41	46	62	37
Missing	29	26	32	32	32	13	33	28	12	37
Mean	2.04	2.85	2.64	1.57	1.60	4.69	1.54	3.11	4.98	2.19
Median	1.00	2.00	2.50	1.00	1.00	5.00	1.00	3.00	6.00	1.00
Mode	1	1	1	1	1	6	1	1	6	1
Std. Deviation	1.476	2.032	1.859	.941	1.037	1.867	1.325	2.100	1.769	1.808
Skewness	1.251	.556	.840	1.721	2.004	-1.006	2.427	.332	-.855	1.431
Std. Error of Skewness	.354	.343	.365	.365	.365	.306	.369	.350	.304	.388
Range	5	6	6	4	4	6	5	6	6	6
Minimum	1	1	1	1	1	1	1	1	1	1
Maximum	6	7	7	5	5	7	6	7	7	7

Of the remaining respondents, ca 37,8% answered 'Don't know', thus in average N=46 responds were provided on these questions.

Of all the standards the most frequently used are in-house developed terms. There 72,6% of the respondents use it from *Frequently* to *Always*, from which 33,9% use it *Very Frequently* (Mode=6, 'Very Frequently', Max=7, 'Always'). Data lessening towards negative answer alternatives (Skewness= -.855). Large st. deviation indicates that data are dispersed around the Mean=4,98.

Use of in-house developed standards – own standards, developed by the buyer enterprises – may in fact be a competition hampering practice. First, it is possible that these terms of contracts may be made specifically to match a certain supplier. Second, if these terms

pressure risks to the supplier, the price of the solution is also being pushed up. Big companies are naturally those who use this practice the most (38,8%) in attempt to exploit their market power. As they also are those who have more resources to pay extra for less risk, it is possible that current suppliers have nothing against this practice.

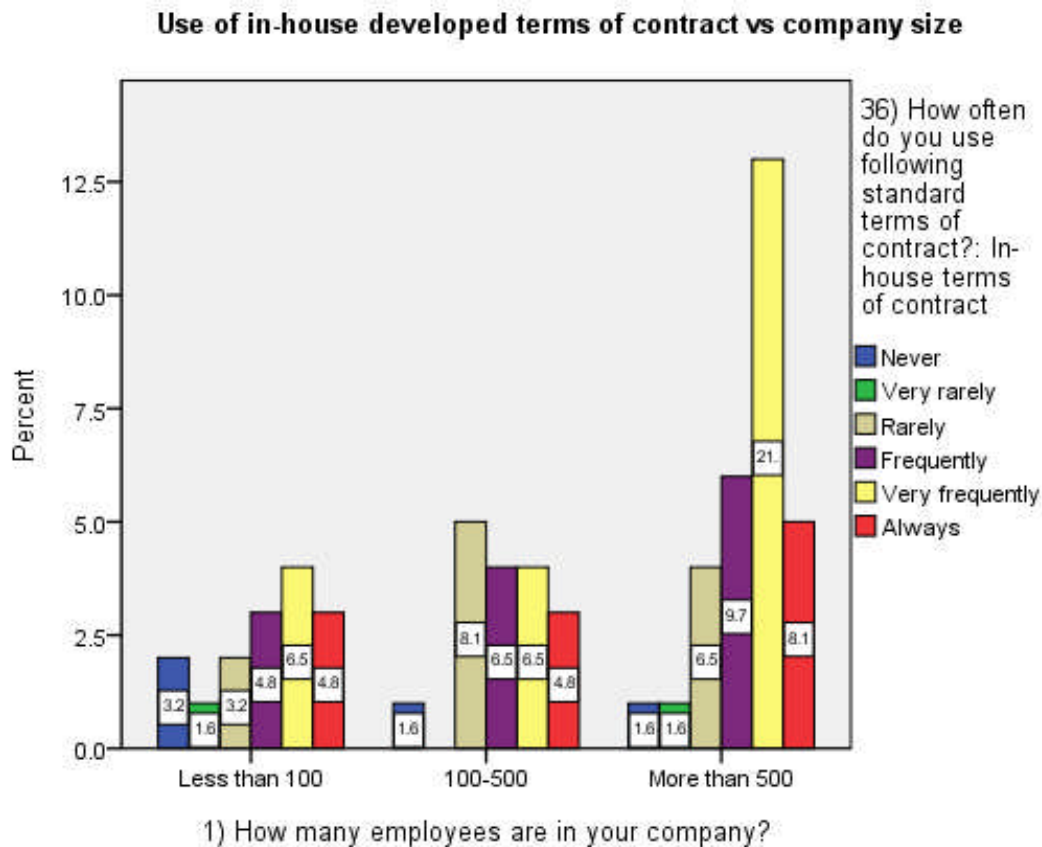


Figure 38. Use of in-house terms of contract vs company size

The second most frequently used standard is NS (Norwegian standard). There 60,8% of the respondents use it from *Frequently* to *Always*, from which 39,3% use it *Very Frequently* (Mode=6, 'Very Frequently', Max=7, 'Always'). The lower mid point (Median=5.00, 'Frequently') and Skewness -1.006 indicate that more data are to be found on the negative answer alternatives side than with the in-house developed terms.

A frequent use of an industry agreed on standard, developed by Standard Norge, is a positive sign, as the standard is well balanced on both, the supplier and the buyer side.

Other standards received low scores, indicating that they are relatively rarely used.

Standards AKB1988, AKS89, SSA, IKT with Mean=ca 3,00, Median=2; 2,50; 3,00. 'Very Rarely' to 'Rarely'. Large st. deviations point out that the data are far dispersed from the mean.

Standards NL01, AIS89, Fidic, Orgalime, ICC , Kolemo and Other are used least frequently in the industry. They have lowest means (from 1,54 to 2,19) and Median=1, 'Never'.

Among *Other* following answers were given:

- offshore industry standard (for oil industry) – NF, NTK
- industry standard developed jointly with others in the industry
- supplier standards
- IKT Norge – supplier-developed standard

While the fact that supplier-developed standards (NL01) and outdated governmental standards (AKB1988, AKS89) are rarely used is positive for the industry, there is a rare use of international standards (Fidic, Orgalime, ICC) and some governmental standard agreements (SSA, IKT). The fact that a big part of the commercial executives didn't know about new standards, means that in-house developed standard terms are being used in such a large extent, that all other standards are left without intended attention.

How often the company uses following types of specification

38) How often do you use following specification?:

Descriptive Statistics

	a) Detail specification	b) Function- performance based specification	c) Industry- standard specification	d) Suppliers' specification
N Valid	118	118	118	118
Missing	0	0	0	0
Mean	4.49	4.87	4.28	2.92
Median	5.00	5.00	5.00	3.00
Mode	5	5	5	3
Std. Deviation	1.506	1.251	1.507	1.528
Skewness	-.594	-.821	-.306	.481
Std. Error of Skewness	.223	.223	.223	.223
Minimum	1	1	1	1
Maximum	7	7	7	7

Minimum= 'Never', Maximum='Always'.

The most frequently used specification is *Function- or performance based specification*. 77,1% of the industry uses it from *Frequently* to *Always*, where *Frequently* constitutes 48,3% (Mean=4,87, Mode=5, 'Frequently'). This is the most desirable type of technical

specification, as it doesn't favour any suppliers above others and let evaluate on performance criteria.

Then follows *Detail specification* which 64,4% use from *Frequently* to *Always* with *Frequently* 39,8% (Mean=4,49, Mode=5, 'Frequently'). Though, large st. deviation indicates that data are dispersed around other more negative answer alternatives. Frequent use of detail specification provides less possibility for competition among suppliers, as it allows the executives be more supplier-specific when developing RFQs.

Industry-standard specification is used by 51,7% of the industry from *Frequently* to *Always* with *Frequently* 32,2% (Mean=4,28 was affected by relatively considerable 16,1% of those who answered Don't know). Skewness =-0.306 and large st. deviation indicate that data are more dispersed from the mean and are to be found in a falling order on the negative scale of answer alternatives. Somewhat less popular, but still in use is a good sign.

Suppliers' specification is used from *Never* to *Rarely* (Mean=2,92, Mode=3, 'Rarely') by 69,5% of the industry. Surprisingly, 21,2% of the industry use it from *Frequently* to *Always*. This is a very worrying sign. When we cross the results with question researching level of awareness of cartels in the industry, we see that supplier specification is used by those who are not aware of supplier cartels (14,5% - see Figure X).

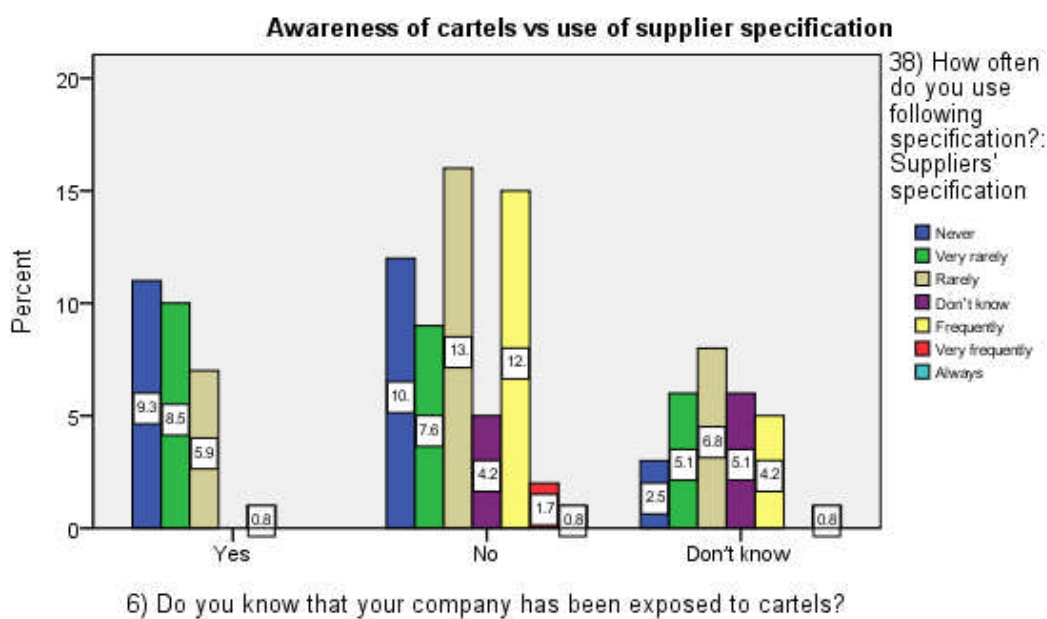


Figure 39. Awareness of cartels vs. use of supplier specification

Language

Commercial executives and those who carry out both functions are relevant for the next group of questions (N=74).

39) How often do you allow for the following?:

Statistics

		a) That RFQ is prepared in English	That a bid can be submitted in English
N	Valid	74	74
	Missing	0	0
	Mean	3.04	3.27
	Median	3.00	3.00
	Mode	3	3
	Std. Deviation	1.716	1.770
	Skewness	.588	.460
	Std. Error of Skewness	.279	.279
	Minimum	1	1
	Maximum	7	7

The industry is not open to use English as working language. The results show that 71,7% of the industry Never to Rarely prepare RFQs in English (Mean=3,04, Mode=3, 'Rarely'). On the other side, 23% of commercial executives use English in development of RFQs from Frequently to Always.

The situation is not much better with submitting of bids. 64,9% of the industry Never to Rarely allow bids to be submitted in English, and 28,8% do it from Frequently to Always. (Skewness in both cases indicate popularity of negative answers over the positive).

While the results are slightly better with bid-submitting procedures, it is important to remember that these two routines are connected. If a company does not prepare RFQs in English, it is very unlikely they will receive any bids submitted in English.

Share of Norwegian language RFQs in the company

For 82,4% of the industry the Norwegian language is used in more than 70% of RFQs. For 14,9% Norwegian language RFQs constitute less than 50% RFQs. The latter commercial executives belong to big energy production and distribution companies (with above 500 employees).

Whether the company has in-house terms of contract in English

44,6% of the respondents answered 'No' and 35,1% answered 'Yes'. 20,3% of commercial executives and those who carry out both functions *don't know* about that.

The fact that for almost half of companies in the industry in-house terms of contract don't even exist in English shows how little thought is given to relationships with international suppliers. That 20% of those who prepare RFQs are not aware if terms of contracts are to be found in English means little structured internal systems used.

What part of the company's contracts above the EEA threshold value is in English

For 45,9% of the industry such contracts constitute less than 10%. For 20,3% the contracts make above 50% of all contracts. 24,3% of the executives answered 'Don't know'.

A rather big part of the industry claim that above 50% of their contracts are written in English. When we crosstab with company size, that the majority of these answers come from the group of big companies. The result is rather surprising, but consistent with those previously provided. In sum they indicate that there is a group of companies (it is possible that the response comes from the employees of only *one* of the major power companies) actively engaged into relationships with international suppliers. Since smaller companies may sometimes enter into contracts together with bigger companies, one would believe that English language does play an important role for them as well.

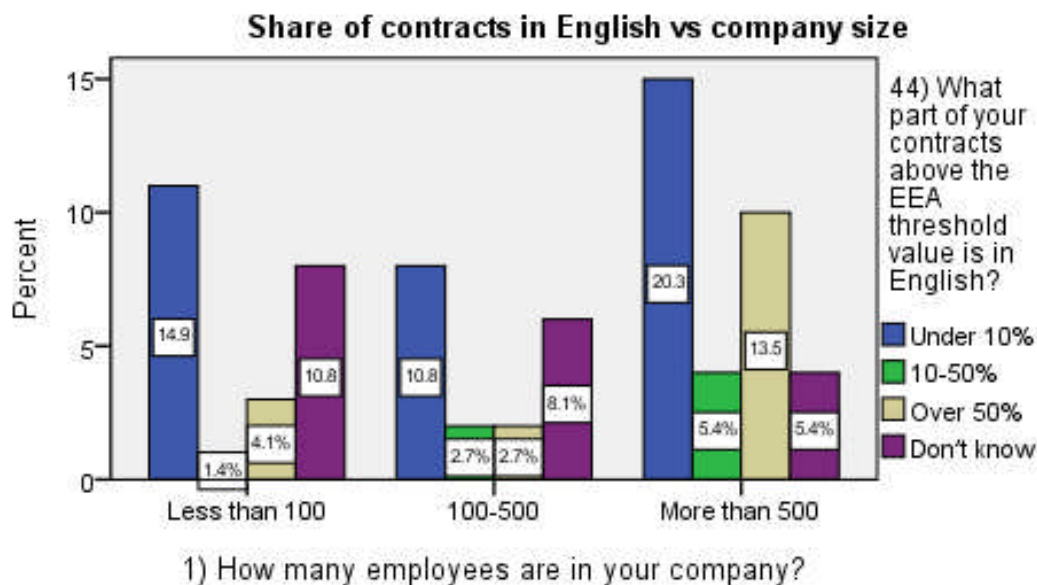


Figure 40. Share of contracts in English vs. company size

Bid-submitting deadlines

How often the company uses different deadlines in competitions with negotiation

42) How often do you use the following deadlines in competitions with negotiation?:

Descriptive Statistics

		a) Less than 24 days	b) 24 days	c) More than 24 days
N	Valid	74	55	74
	Missing	0	19	0
Mean		3.15	3.76	4.72
Median		3.00	3.00	5.00
Mode		3	3	5
Std. Deviation		1.585	1.763	1.494
Skewness		.322	.038	-.863
Std. Error of Skewness		.279	.322	.279
Minimum		1	1	1
Maximum		7	7	7

Minimum='Never', Maximum='Always'.

a) Less than 24 days

63,5% of the industry use *less than 24 days* as a bid-submitting deadline from Never to Rarely, where Rarely is the most common answer (Mean=3,15, Mode=3, 'Rarely'). Even though the data are skewed to the side with negative answer alternatives, 27% use short deadlines from Frequently (23%) to Always.

When we crosstab with company size, we see that 13,5% of those who use it Frequently are big companies, 9,5% are medium-sized (Frequently to Very Frequently) and 2,7% are small ones (Always).

b) 24 days

25,7% commercial executives and those who carry out both functions answered 'Don't know'. In order to get a more accurate indication of how often the deadline is used, they were treated as missing. Once we do it, we see that the results are mixed. Mean=3,76 and Skewness=.038 indicate that there is a rather symmetric distribution of data. Large std. deviation indicates that the data are dispersed far from the mean. While 40,6% use this deadline from Never to Rarely (Mode=3, 'Rarely'), 33,8% use it from Frequently to Always, which pushed the mean more to the right.

When we crosstab the data with company size, we see that 14,5% of those who use it Frequently and 9,1% of those who is it Very Frequently are big companies.

c) More than 24 days

The data are skewed to the right, indicating that the most, 70,3%, use these deadlines from Frequently (Mean=4,72, Mode=5, 'Frequently') to Always. 20,3% use it from Never to Rarely.

When we crosstab the data with company size, we see that 33,8% of the active users of long deadlines come from big companies.

In general, the industry avoids using short deadlines and gives preference to longer deadlines or a minimum deadline for procurements above the EEA threshold value, which is 24 days. Apparently, almost one third of the industry, mostly represented by big and medium-sized companies use shorter deadlines. The lawful reasons for use of shorter deadlines than 24 days may be the urgent necessity of such procurements, use of electronic systems of bid submitting or agreement with all the bidders on the shorter deadlines. Either the case, this is a competition-limiting practice, which may also be an indicator of problems with internal planning procedures for the company's total procurement.

How often the company uses an extended deadline in order to attract new market players

17,6% of commercial executives and those who carry out both functions answered 'Don't know'. Those variables were treated as missing in order to see a pattern among those who do know.

66,2% of the remaining respondents use extended deadlines from Never to Rarely (Mean=2,74, Mode=3, 'Rarely'). Although 16,2% employ such practice Frequently, the data indicate that extended deadline is not a popular market extending routine in the industry.

Perceived behavioural control

Company routines

Perception on who has a greater impact on the outcome of the procurement process in the company

49,2% of the industry perceive that both dimensions have equal impact on the outcome of the procurement process. Another half, 42,4% feels that technical executives have greater impact on which supplier is awarded the contract.

48) Whom do you believe has greater impact on who is awarded the contract?

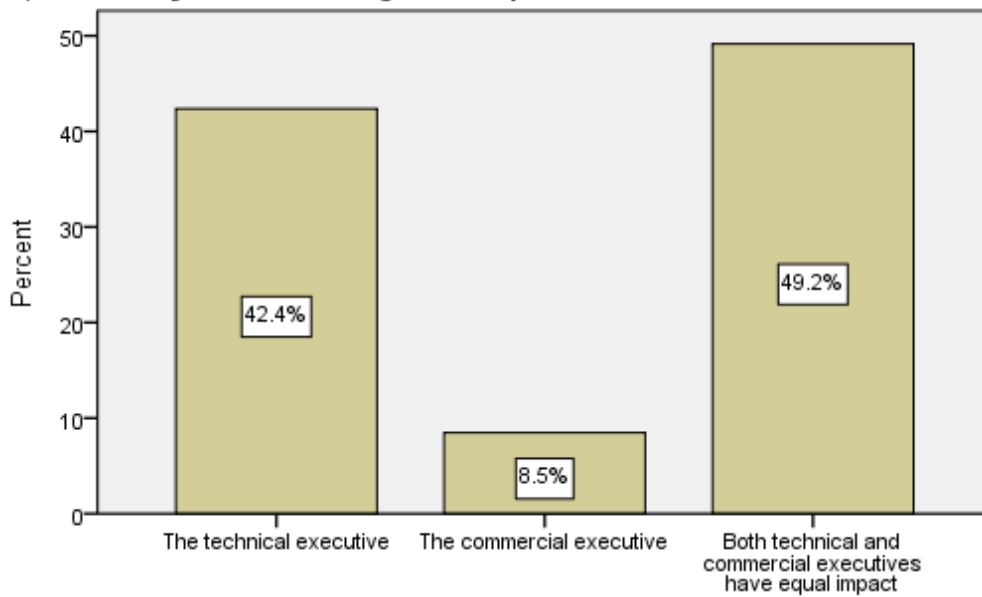


Figure 41. Perception of power to decide in the procurement process

When we crosstab with field of responsibility, we see how these perceptions are dispersed among all the three groups of executives. 10,2% of commercial executives vs. 18,6% of technical executives vs. 13,6% of those who carry out both functions in procurement – is the group believing that *technical executives* have greater impact on who becomes awarded the contract. 15,3% of commercial executives vs. 15,3% of technical executives vs. 18,6% of those who perform both functions – is the group believing that *both* dimensions have equal impact on the outcome. The smallest group, 3,4% vs. 3,4% vs. 1,7 correspondingly – is the group believing that *commercial executives* have greater impact in the process of the final supplier choice.

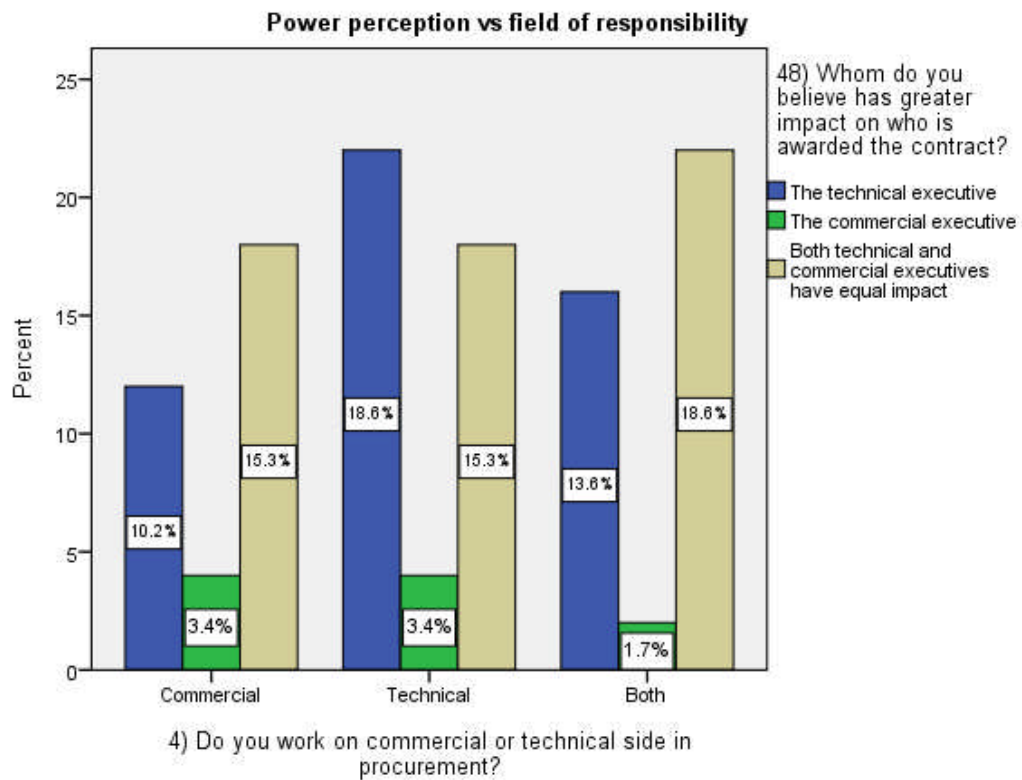


Figure 42. Power perception vs. field of responsibility

On the other hand, the perception on who *should have* greater impact on the outcome of the process differs from the real practice. The importance of both dimensions gets more weight in the beliefs of the respondents, and impact of the technical dimension is somewhat reduced.

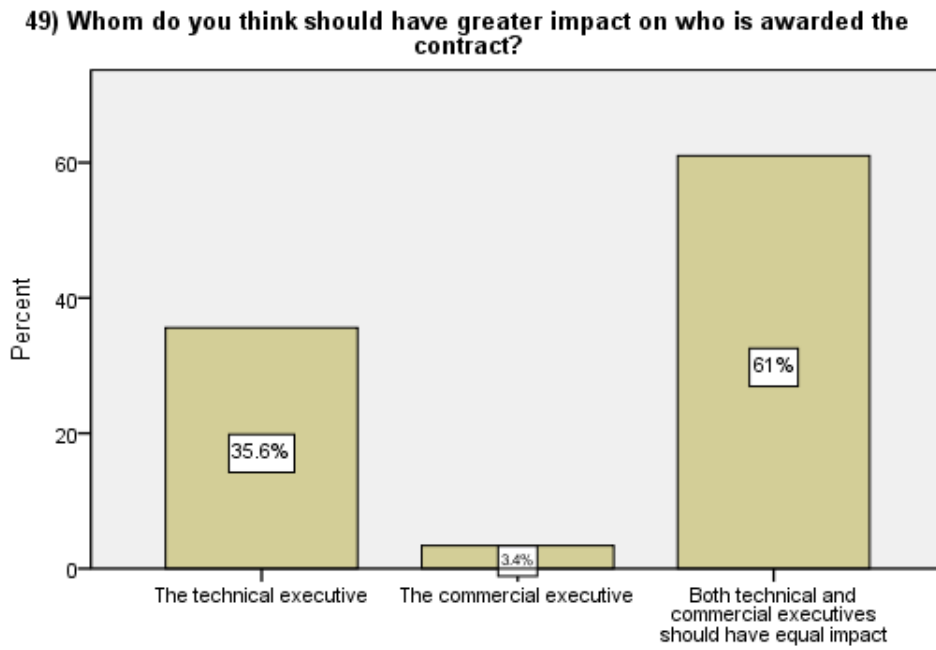


Figure 43. Power beliefs in the procurement process

The beliefs differ in the three groups of executives:

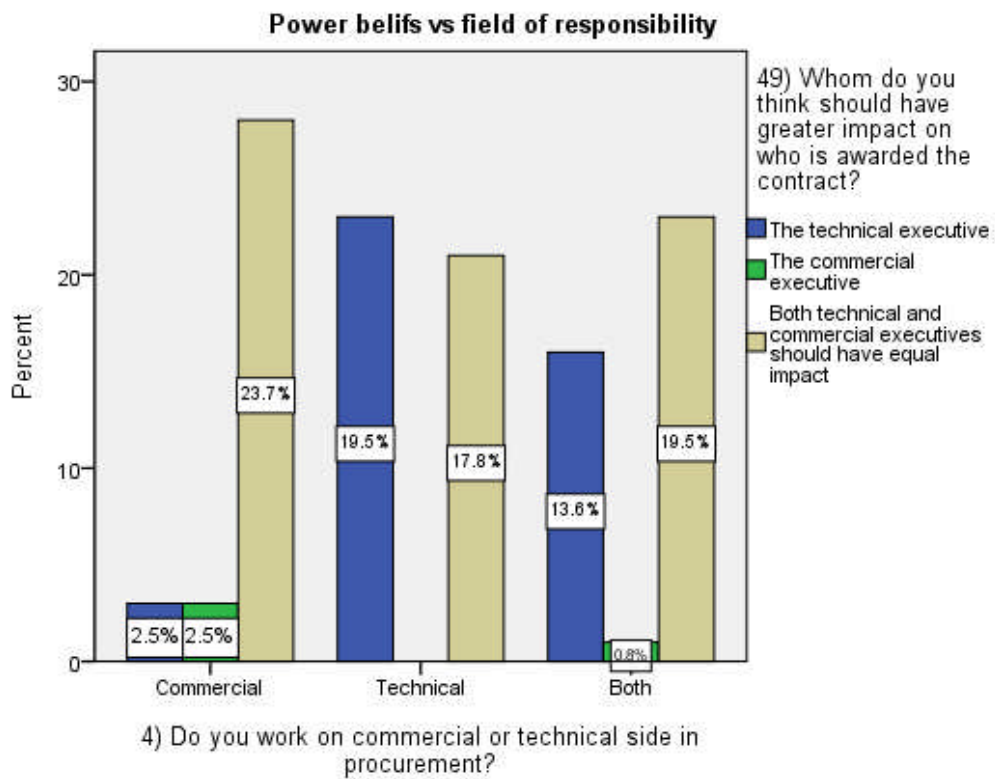


Figure 44. Power beliefs in the procurement process vs. filed of responsibility

The data indicate that in ca half of the industry technical executives have a sole impact on the final choice of supplier, though some insignificant part of the technical executives (3,4%) perceive that commercial executives have too much power in the purchasing process and want their impact reduced. Commercial executives (7,7%), on the other side, feel that technical executives have larger impact than they should, and could wish more of equal impact from both dimensions. All in all, more than half of the technical executives want to decide which supplier should get the contract. This opinion is supported by a pig part of those who carry out both functions in the purchasing process.

Crosstabs help to delve deeper into differences in perceptions and beliefs between the three groups of the executives by showing how opinions are divided within each of the groups.

Perceptions about the role power in the purchasing process:

4) Do you work on commercial or technical side in procurement? * 48) Whom do you believe has greater impact on who is awarded the contract? Crosstabulation

			48) Whom do you believe has greater impact on who is awarded the contract?			Total
			The technical executive	The commercial executive	Both technical and commercial executives have equal impact	
4) Do you work on commercial or technical side in procurement?	Commercial	% within 4) Do you work on commercial or technical side in procurement? % of Total	35.3%	11.8%	52.9%	100.0%
	Technical	% within 4) Do you work on commercial or technical side in procurement? % of Total	10.2%	3.4%	15.3%	28.8%
	Both	% within 4) Do you work on commercial or technical side in procurement? % of Total	50.0%	9.1%	40.9%	100.0%
			18.6%	3.4%	15.3%	37.3%
Total	% within 4) Do you work on commercial or technical side in procurement? % of Total		42.4%	8.5%	49.2%	100.0%
			42.4%	8.5%	49.2%	100.0%

Technical executives have greater impact

35,3% of commercial executives perceive that technical executives have greater impact in the final evaluation of the incoming bids. The same is valid for 50% of technical executives and 40% for those who carry out both functions.

Commercial executives have greater impact

9,1% of technical executives and 5% of those who carry out both functions perceive that commercial dimension play a bigger role in bid evaluation. 11,8% of commercial executives agree on that.

Both technical and commercial executives have equal impact

The group is represented by 52,9% of commercial executives, 40,9% of technical executives, and 55% of those who carry out both functions.

Beliefs about the role power in the purchasing process:

4) Do you work on commercial or technical side in procurement? * 49) Whom do you think should have greater impact on who is awarded the contract? Crosstabulation

			49) Whom do you think should have greater impact on who is awarded the contract?			Total
			The technical executive	The commercial executive	Both technical and commercial executives should have equal impact	
4) Do you work on commercial or technical side in procurement?	Commercial	% within 4) Do you work on commercial or technical side in procurement? % of Total	8.8%	8.8%	82.4%	100.0 %
	Technical	% within 4) Do you work on commercial or technical side in procurement? % of Total	2.5%	2.5%	23.7%	28.8%
	Both	% within 4) Do you work on commercial or technical side in procurement? % of Total	52.3%		47.7%	100.0 %
			19.5%		17.8%	37.3%
Total	% within 4) Do you work on commercial or technical side in procurement? % of Total	40.0%	2.5%	57.5%	100.0 %	
		13.6%	.8%	19.5%	33.9%	
			35.6%	3.4%	61.0%	100.0 %
			35.6%	3.4%	61.0%	100.0 %

Technical executives should have greater impact

52,3% of technical executives believe that they should have greater impact in the final process of the supplier choice. The same is valid for 40% of those who carry out both functions.

Commercial executives should have greater impact

Somewhat reduced amount of commercial executives (8,8%) think that guidelines set by the commercial dimension should be determining in the procurement process. Only 2,5% of those who carry out both functions agree on that.

Both technical and commercial executives should have equal impact

82,4% of commercial executives, 47,7% of technical executives and 57,5% of those who carry out both functions represent this group.

The results show that ca one third of commercial executives experience that technical dimension is more prioritized in the process of final supplier choice and could wish a more equal impact on the outcome of the process. Those who carry out both functions, to a big degree reflect the view of the technical dimension, which supports the expectation that they represent more technical dimension than commercial.

As knowledge of the Public Procurement Act and relating Regulations determines how the procurement process is set and followed, crosstab with the level of proficiency in laws and relating regulations will provide a further insight into the obtained results.

5) How well do you know the regulations relating to public procurement? * 49) Whom do you think should have greater impact on who is awarded the contract? Crosstabulation

			49) Whom do you think should have greater impact on who is awarded the contract?			Total
			The technical executive	The commercial executive	Both technical and commercial executives should have equal impact	
5) How well do you know the regulations relating to public procurement?	Proficient	% within 5) How well do you know the regulations relating to public procurement? % of Total	4.3%	13.0%	82.6%	100.0%
	Well	% within 5) How well do you know the regulations relating to public procurement? % of Total	.8%	2.5%	16.1%	19.5%
	Need more training	% within 5) How well do you know the regulations relating to public procurement? % of Total	38.3%	1.7%	60.0%	100.0%
		% within 5) How well do you know the regulations relating to public procurement? % of Total	19.5%	.8%	30.5%	50.8%
	Not relevant	% within 5) How well do you know the regulations relating to public procurement?	54.5%		45.5%	100.0%
			15.3%	12.7%	28.0%	
				100.0%	100.0%	

	% of Total			1.7%	1.7%
Total	% within 5) How well do you know the regulations relating to public procurement? % of Total	35.6%	3.4%	61.0%	100.0%
		35.6%	3.4%	61.0%	100.0%

The majority of those who are *proficient* in laws (82,6%) and who say that they know them *Well* (60%) have no doubt that both dimensions should have an equal impact on who becomes awarded the contract in the end. Those who believe technical executives should have greater impact on the outcome are represented by 38,3% of those who say they know the laws *Well* and by 54,5% of those who *Need more training*.

These results show that while commercial executives have a correct understanding of importance of both roles in the purchasing process in the industry, since as the rule, they are those who make sure that the laws are followed, more than one half of technical executives and ca same amount of those who carry out both functions value technical component above the joint effort of these two dimensions in the procurement process. It means that attitudes and beliefs about suppliers, routines, products and prices prevailing among technical executives are those that prevail in the industry at the moment. Moderate understanding of laws is one of the factors that provide to this situation. Industry behaviour in total can be seen as the outcome of these attitudes and beliefs.

Perceived behavioural control towards Suppliers

Descriptive Statistics

	N	Min	Max	Mean	Std. Dev.	Skewness	
	Stat.	Stat.	Stat.	Stat.	Stat.	Stat.	Std. Error
50a) In my opinion there is a real competition in the market	118	1	6	2.25	.944	1.697	.223
50b) I don't let myself be manipulated by suppliers	118	1	7	2.04	1.112	1.696	.223
50f) References provided in the bid give valuable information regarding the procurement	118	1	6	2.50	1.107	1.248	.223
55tt) It is okay to pay more if this leads to reduced delivery times	118	1	7	3.50	1.273	.810	.223
Valid N (listwise)	118						

Minimum=1, 'Strongly Agree', Maximum=7, 'Strongly Disagree'

In general, the industry agrees that there is a real competition in the supplier market (Mean=2,25 'Agree', Mode=2, small std. deviation indicates consistency of the replies). The respondents believe that they do what it takes in order not to be manipulated by the seller market (Mean=2,04, 'Agree', Mode=2), though opinions are more dispersed here (std.

deviation is large), which indicates that some part of the industry doesn't perceive that they can control all the ongoing processes.

Majority of the respondents (86,5%) agree that references provided in the bid may give valuable information regarding the procurement (Mode=2, 'Agree'). Willingness to pay more if this leads to reduced delivery times is not that certain (Mean=3,50, Mode=3, 'Somewhat Agree').

Perceived behavioural control towards Routines

Q55uu produced 27,1% of the respondents who answered 'Don't know' and Q55ww – 31,4%. These values are too high to be treated as neutral attitude, and were therefore extracted as missing for the analysis.

Descriptive Statistics							
	N	Min	Max	Mean	Std. Dev.	Skewness	
	Stat.	Stat.	Stat.	Stat.	Stat.	Stat.	Std. Error
50c) I regularly have to carry out urgent deliveries	118	1	7	4.42	1.717	-.198	.223
50d) I regularly have too little time to carry out procurement projects correctly	118	1	7	4.53	1.657	-.324	.223
50e) I don't have time to check references in the bid	118	1	7	5.09	1.377	-.809	.223
50g) It is resource-demanding to administrate many bidders	118	1	7	2.67	1.427	1.214	.223
50h) It is time-consuming to evaluate many bids	118	1	7	2.56	1.393	1.236	.223
50i) The submitting deadlines are too short to attract new market players	118	1	7	4.79	1.395	-.727	.223
50j) The outcome is in too large degree determined by procurement regulations	118	1	7	4.17	1.576	-.059	.223
50k) I am comfortable with using English as business language in preparation of RFQ and in negotiations	118	1	7	3.98	1.974	-.078	.223
55ss) It is necessary to have several bids to evaluate	118	1	6	1.79	.941	1.751	.223
55uu) An extended submitting deadline attracts new suppliers	86	1	7	3.84	1.600	.343	.260
55vv) It is important to check stated references	118	1	7	2.33	.979	1.461	.223
55ww) Use of English in the preparation of RFQ leads to more competition	81	1	7	3.17	1.829	.869	.267

Minimum=1, 'Strongly Agree', Maximum=7, 'Strongly Disagree'

In order to reflect nuances in opinions the collected data represent, it was decided to divide responses in groups as follows:

Somewhat Disagree - statements in this group have Mean close to 5,0 'Somewhat Disagree' and Mode=6 'Disagree'.

I regularly have to carry out urgent deliveries (Mean=4,42, closer to 4 'Disagree').

I regularly have too little time to carry out procurement projects correctly

I don't have time to check references in the bid

The submitting deadlines are too short to attract new market players

Mixed – this group has mixed results, but Mean close to 4 which indicates neutral position.

I am comfortable with using English as business language in preparation of RFQ and in negotiations (Mode=6 'Disagree').

An extended submitting deadline attracts new suppliers (Mode=3 'Somewhat Agree').

Somewhat Agree – in this group, Mean and Mode have the same loading of 3 'Somewhat Agree'.

The outcome is in too large degree determined by procurement regulations

Agree – statements in this group have Mean varying from 2, 'Agree' to 3, 'Somewhat Agree', and Mode=2 'Agree'.

It is resource-demanding to administrate many bidders

It is time-consuming to evaluate many bids

It is necessary to have several bids to evaluate (Mean=1,79 from 'Strongly Agree' to 'Agree')

It is important to check stated references (Mean=2,33 closer to 'Agree').

Use of English in the preparation of RFQ leads to more competition (Mean=3,17, bigger than 3).

In sum, the industry perceives that they plan purchasing processes in the way that there is sufficient time to carry out procurement projects. This results in correct approach to the process – setting sufficient deadlines, checking references provided in the bids. The executives involved into the purchasing process see the importance of having many bids to evaluate, despite the fact that it is time-consuming. Although the respondents agree that use of English in preparation of RFQs leads to more competition, they feel to a larger degree uncomfortable using it themselves. Extending of bid-submitting deadline is not much focused on.

Attitudes

Attitude towards Sellihca

Satisfaction with Sellihca (Q22)

22,9% of commercial executives and those who carry out both functions answered 'Don't know'. As this is a large value, these responses were treated as missing values (N=67).

Descriptive statistics (Min=1 'Very Dissatisfied', Max=7 'Very Satisfied') and frequency tables provide Mean=5,06 ('Somewhat Satisfied'). Negative skewness -1.676 indicates that the data are skewed left. Large std. deviation 1.1486 indicates that the data points are far from the mean. Still, in total only 15% answers vary from 'Very Dissatisfied' to 'Somewhat Dissatisfied', and 85,1% of the respondents feel from 'Somewhat Satisfied' to 'Very satisfied' (Mode=6, 'Satisfied'). Thus, majority of the industry is satisfied with Sellihca database.

After completing the analysis of attitudes to Sellihca, beliefs about other systems used for invitation of suppliers to tenders will be compared. As only commercial executives and those who carry out both functions have competence about these systems, only their answers will be analysed (N=74).

Descriptive Statistics

	N	Min.	Max.	Mean	Std. Deviation	Skewness	
	Stat.	Stat.	Stat.	Stat.	Statistic	Stat.	Std. Error
27a) I can get more competition by publishing more RFIs in Doffin/TED	74	1	7	3.78	1.519	.161	.279
27b) I can get more competition by announcing more contract awards in Doffin/TED	74	1	7	4.23	1.467	-.036	.279
27c) Sellihca provides a sufficient choice of suppliers	74	1	7	3.45	1.597	.578	.279
Valid N (listwise)	74						

Minimum=1, 'Strongly Agree', Maximum=7, 'Strongly Disagree'

Beliefs about whether Sellihca provides a sufficient choice of suppliers (Q27c)

Satisfaction results (Q22) are somewhat supported. Mean=3,45 (between 'Somewhat Agree' and neutral position) Mode=2, 'Agree'. Data points are far dispersed around the mean.

60,9% answers vary from 'Strongly Agree' to 'Somewhat Agree'.

31,1% answers vary from 'Strongly Disagree' to 'Somewhat Disagree' (18,9%).

The results show that although a smaller number of respondents thinks that Sellihca provides a sufficient choice of suppliers, the industry is satisfied with this database. This is according with earlier results that indicate that many executives encourage new suppliers to register in Sellihca.

Beliefs about which improvements announcement of tenders in Sellihca can lead to: (see table below).

From 18% to 33,8% respondents answered Don't know, they were treated as missing values.

51) Announcement of tenders in Sellihca leads to:

		Statistics						
		a) Better market situation	b) Better products	c) Higher quality	d) Better reliability	e) Reduced delivery times	f) Lower risk	g) Lower prices
N	Valid	60	53	51	54	54	62	49
	Missing	14	21	23	20	20	12	25
	Mean	2.83	3.89	3.84	3.69	4.04	3.65	4.06
	Median	2.00	3.00	3.00	3.00	5.00	3.00	3.00
	Mode	2	2	3	3	2 ^a	3	3 ^a
	Std. Deviation	1.392	1.783	1.793	1.680	1.759	1.631	1.830
	Skewness	1.049	.283	.223	.446	-.058	.318	.076
	Std. Error of	.309	.327	.333	.325	.325	.304	.340
	Skewness							
	Minimum	1	1	1	1	1	1	1
	Maximum	6	7	7	7	7	7	7

a. Multiple modes exist. The smallest value is shown
Minimum=1, 'Strongly Agree', Maximum=7, 'Strongly Disagree'

The data show that among the prevailing beliefs about Sellihca are: 1) it makes the supplier market more predictable (*lower risk*), and 2) somewhat reliable. Though, there are ambiguous data regarding beliefs about its effects on product quality, and especially mixed beliefs about the effects it may have on delivery times and prices.

Attitude towards Doffin/TED

Beliefs about which improvements announcement of competitions in Doffin/TED can lead to (see table below).

From 40% to 56,8% of commercial executives and those who carry out both functions answered Don't know. These were treated as missing variables.

52) Announcement of competitions in Doffin/TED leads to:

		Statistics						
		a) Better market situation	b) Better products	c) Higher quality	d) Better reliability	e) Reduced delivery times	f) Lower risk	g) Lower prices
N	Valid	43	32	34	33	38	40	36
	Missing	31	42	40	41	36	34	38
	Mean	2.77	3.75	4.21	4.06	4.68	4.53	3.44
	Median	2.00	3.00	5.00	5.00	5.00	5.00	3.00
	Mode	2	2	3	5	5	3	3
	Std. Deviation	1.342	1.741	1.572	1.638	1.454	1.467	1.681
	Skewness	1.439	.489	.086	.033	-.582	-.129	.732
	Std. Error of Skewness	.361	.414	.403	.409	.383	.374	.393
	Minimum	1	2	2	2	2	2	1
	Maximum	7	7	7	7	7	7	7

Minimum=1, 'Strongly Agree', Maximum=7, 'Strongly Disagree'

The results show that the prevailing belief about the announcement of competitions in Doffin/TED is that it leads to a better market situation, which naturally results in somewhat better products. There are mixed opinion on whether this routine would result in lower prices. On the negative side, the routine entails higher risks due to reduced reliability with deliveries, connected, for example, with longer delivery times.

Beliefs about which improvements announcement of awarded contracts in Doffin/TED can lead to (see table below).

From 51,4% to 58,1% of commercial executives and those who carry out both functions answered Don't know. These were treated as missing values.

53) Announcement of awarded contracts in Doffin/TED leads to:

		Statistics						
		a) Better market situation	b) Better products	c) Higher quality	d) Better reliability	e) Reduced delivery times	f) Lower risk	g) Lower prices
N	Valid	36	32	33	33	32	35	31
	Missing	38	42	41	41	42	39	43
	Mean	3.58	4.91	4.79	4.79	5.13	4.80	4.65
	Median	3.00	5.00	5.00	5.00	6.00	5.00	5.00
	Mode	2 ^a	6	6	6	6	6	6
	Std. Deviation	1.857	1.653	1.746	1.799	1.581	1.729	1.780
	Skewness	.626	-.755	-.592	-.691	-1.002	-.651	-.293
	Std. Error of Skewness	.393	.414	.409	.409	.414	.398	.421
	Minimum	1	1	1	1	2	2	2
	Maximum	7	7	7	7	7	7	7

a. Multiple modes exist. The smallest value is shown
Minimum=1, 'Strongly Agree', Maximum=7, 'Strongly Disagree'

The data are more mixed when it comes to beliefs the industry has about the effects of announcement of awarded contracts in Doffin. The general tendency is that it leads to a better market situation (first Mode=2, 'Agree' and second Mode=3, 'Somewhat agree' with

66,8% of those who tend to agree and 33,3% of those who tend to disagree). Although a summary evaluation of other alternatives was rather negative in general (Mean around 5 'Somewhat Disagree', Mode=6 'Disagree'), large std. deviations and small skewness indicate that data are rather evenly dispersed far from the mean.

Attitude towards suppliers

Satisfaction with suppliers

On satisfaction with Norwegian suppliers only 1,7% answered Don't know. All respondents are therefore relevant (N=118).

On satisfaction with suppliers from the EU/EEA 33,1% answered Don't know. This is a large value and cannot be considered as neutral evaluation when performing descriptive statistics, thus the data is reduced to N=79.

On satisfaction with suppliers from outside of the EU/EEA, 61,9% of the respondents answered Don't know. This indicates that that have no experience with the suppliers in question and are therefore not relevant for the analysis. This reduced N to 45 of valid respondents.

33) How often are you satisfied with the deliveries from:

Descriptive Statistics

	N	Min.	Max.	Mean	Std. Dev.	Skewness	
	Stat.	Stat.	Stat.	Stat.	Stat.	Stat.	Std. Error
a) Norway?	118	3	7	5.42	.633	-.017	.223
b) the EU?	79	1	7	4.78	1.288	-1.766	.271
c) outside the EU?	45	1	6	3.38	1.969	-.202	.354

Minimum=1, 'Never', Maximum=7, 'Always'

Suppliers from Norway

97,5% of the respondents are from *Frequently* (55,1%, Mode=5) to *Always* satisfied with suppliers from Norway. Mean=5,42 is between 'Frequently' to 'Very Frequently'. Of the negative alternatives only 0,8% are satisfied Rarely. Small std. deviation and almost zero skewness indicate that the values are relatively evenly distributed not far from the mean.

Suppliers from the EU/EEA

More variable results are achieved on satisfaction with suppliers from the EU. 84,9% of the respondents are from *Frequently* (63,3%, Mode=5) to *Always* satisfied with them.

Mean=4,78 is near 'Frequently'. 15,2% are Never to Rarely satisfied with the deliveries. Large deviation and large negative skewness indicate that data are unevenly distributed with a longer tail on the negative side from the mean.

International suppliers from outside the EU/EEA

Ambiguous data are collected on the rest of the respondents. Mean=3,38 is closer to 3 'Rarely'. A large std. deviation indicates that data are very unevenly distributed around the mean. Whereas 51,1% of the industry is satisfied with international suppliers from Frequently (42,2%) to Very Frequently, 48,9% of it is satisfied from Never (35,6%) to Rarely.

Interestingly enough, virtually **all** respondents who answered *Never* have never purchased anything from countries other than EU/EEA (see crosstab X). This is a truly amazing research result, because instead of avoiding to respond, they indicate *negative pre-attitude towards those suppliers*.

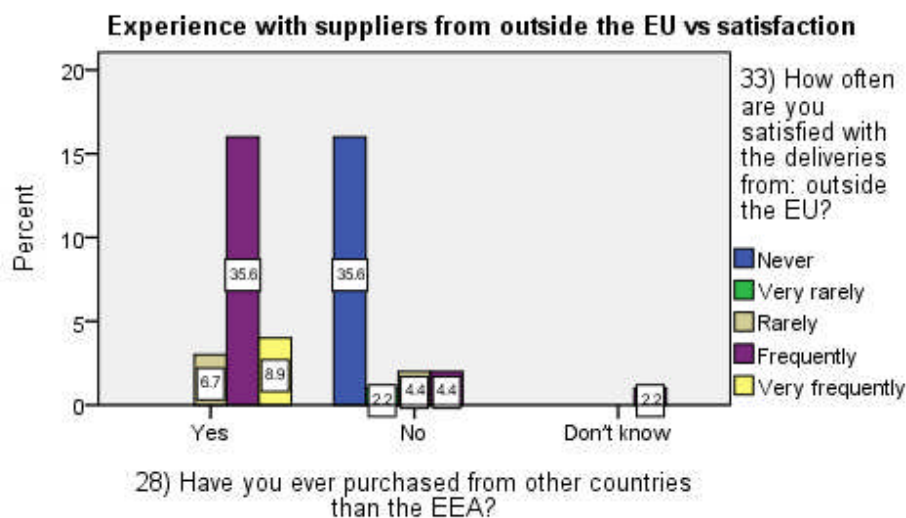


Figure 45. Experience with suppliers from outside of the EU vs. satisfaction

The results suggest that the industry is definitely satisfied with Norwegian suppliers. The further the supplier is placed from Norway, the less satisfaction the buyers show. Though, not all these attitudes are based on the experience.

We further analyze same beliefs alternatives about these suppliers, as we did when analyzing attitude towards Doffin/TED. This is because announcement in that database is the main tool for reaching international suppliers worldwide.

Beliefs about which improvements sending RFQs to suppliers outside the EEA leads to: (see table below)

From 42,4% to 62,7% of the responded answered Don't know. For the purpose of analysis, these are treated as missing values, even though it reduces N significantly.

54) Sending of RFQ to suppliers outside the EEA leads to:

		Statistics						
		a) Better market situation	b) Better products	c) Higher quality	d) Better reliability	e) Reduced delivery times	f) Lower risk	g) Lower prices
N	Valid	68	44	44	48	56	61	65
	Missing	50	74	74	70	62	57	54
	Mean	2.75	4.27	4.68	4.88	4.71	5.39	3.06
	Median	2.00	5.00	5.00	5.00	5.00	6.00	3.00
	Mode	2	6	5	5	6	6	2 ^a
	Std. Deviation	1.386	1.796	1.653	1.619	1.546	1.201	1.572
	Skewness	1.574	-.178	-.627	-.448	-.480	-1.530	1.007
	Std. Error of Skewness	.291	.357	.357	.343	.319	.306	.299
	Minimum	1	1	1	2	2	2	1
	Maximum	7	7	7	7	7	7	7

a. Multiple modes exist. The smallest value is shown
Minimum=1, 'Strongly Agree', Maximum=7, 'Strongly Disagree'

Majority of respondents who provided answers on the series of these questions actually believe that inviting suppliers from outside of the EEA leads a *better market situation* (Mean=2,75 close to 3, 'Somewhat Agree', Mode=2, 'Agree'). 85,3% have positive approach to international suppliers vs 14,7% with negative approach. Relatively small std. deviation and large positive skewness indicate that data are distributed not far from the mean, and the distribution is right-skewed.

78,2% of the responded tend to agree that such international competition would result in *reduced prices* (first Mode=2, 'Agree', second Mode= 3, 'Somewhat Agree') are not in contradiction with the general tendency.

Ambiguous data collected regarding the issue of *better products* (while Mean=4,27 is near 4 'Somewhat Agree', 43,2% tend to agree, and over a half, 56,8%, tend to disagree with that. Mode=5, 'Disagree'). Large std. deviation indicate that data are distributed far from the mean, but very little skewed.

Respondents tend to disagree (ca 70%) regarding alternatives as *quality*, *reliability*, and *delivery times*. High *risk* involved is the major issue of their concern (90,2% of the responded, Mean=5,39 nearly coincides with the Mode=6, 'Disagree').

In sum, invitation of suppliers from outside the EEA to participate in tenders can lead to a better market situation and lower prices. On the other side of the scales lie fear of the risks involved and negative beliefs about quality, long delivery times, and reliability of the deliveries. There are mixed beliefs about whether the product such suppliers have to offer is any better than Norwegian suppliers have to offer.

Attitude based on beliefs classified according to six Cialdini's constructs of persuasion and compliance

The beliefs were measured in Q55. We start by performing descriptive statistics on it.

On most of the statements the level of those who answered 'Don't know' was under 20-30%, which we want to assume reflects neutral attitude of respondents towards the statements.

Four questions on which *Don't know* responses are above 30%:

55p) Use of internationally known standard terms of contract increases our risk exposure

55r) It is okay not to announce competitions in Doffin/TED, because this is common procedure

55s) It is okay not to announce awarded contracts in Doffin/TED, because this is common procedure

55t) It is okay not to announce awarded contracts in Doffin/TED, because it has no consequences

As definition of this category as missing would reduce amount of respondents to N=33 (28% of the total), it was decided to analyse these questions separately, because the very purpose of this research is performing analysis of attitudes of the entire set of the respondents.

Agree

Q55c – Well-known suppliers indicate security - R

Q55d – I give references and make positive statements about products that I buy – C&C

Q55e – I give recommendations to colleagues if suppliers ask about it – C&C

Q55h – New and unknown suppliers lead to increased risk - SP

Q55i – New and unknown suppliers lead to greater need for training - SP

Q55j – Unfamiliar brands indicate increased risk - SP

Q55k – Unfamiliar brands indicate greater need for training - SP

Q55l – It is important that the industry has a common approach to the supplier market - SP

Q55u – It is important that the supplier is known in our industry - L

Q55x – It is important that the supplier knows Norwegian conditions - L

Q55kk – I rely on formal references about a product from my colleagues - Auth

Q55ll – I rely on formal references about suppliers from my colleagues - Auth

Somewhat agree

Q55b – Well-known brands indicate high quality - R

Q55g – I participate in external user forums [*ownership*] – C&C

Q55o – Use of internationally known standard terms of contract encourages competition - SP

Q55v – It is important that the supplier knows our company - L

Q55y – Networks established by known suppliers are important for the industry - L

Q55ff – I will rather relate to suppliers who speak the same language as I - L

Q55hh – Network from professional life is important to the industry - Auth

Q55jj – I rely on informal references about suppliers from my colleagues - Auth

Mixed

Q55a – A high price indicates higher quality - R

Q55f – I participate with suppliers in product development [*ownership*] - C&C

Q55m – Established technical standards hamper technology development - SP

Q55q – Use of English in RFQ increases our risk exposure - SP

Q55pp – It is better to buy from a niche-supplier to the energy industry than from suppliers to other industries - Scar

Q55w – It is important that the supplier has a local presence - L

Q55ee – I will rather relate to suppliers who have the same business culture as I - L

Q55ii – I rely on informal references about a product from my colleagues - Auth

Q55oo – We should not be a pilot-buyer for new products and suppliers A - Auth

Somewhat disagree

Q55n – Established templates for RFQ and general contract terms hamper more competition - SP

Q55p – Use of internationally known standard terms of contract increases our risk exposure - SP

Q55bb – I will rather relate to suppliers I already have a positive experience with (companies) - L

Disagree

Q55r – It is okay not to announce competitions in Doffin/TED, because this is common procedure - SP

Q55s – It is okay not to announce awarded contracts in Doffin/TED, because this is common procedure - SP

Q55t – It is okay not to announce awarded contracts in Doffin/TED, because it has no consequences - SP

Q55z – Replacing a product is unreasonably costly - L

Q55aa – Replacing a supplier is unreasonably costly - L

Q55cc – I will rather relate to suppliers I know (persons) - L

Q55dd – I will rather relate to suppliers my colleagues are familiar with - L

Q55gg – Network from college is important to the industry - Auth

Q55mm – It is better to choose same products as other energy companies use - Auth

Q55nn – It is better to choose same suppliers as other energy companies use - Auth

Q55qq – It is okay to pay more for deliveries from a niche-supplier - Scar

Q55rr – I would rather buy from a supplier who only has the EU as market - Scar

Initially, it was intended to perform factor analysis on this question in order to explore the relationships among the set of variables, find major factors and see which items load heaviest, since some of them may seem repeating the information. Due to time limitations, it was decided not to proceed with factor analysis further. Though, it was made a good start when it was found out that 13 factors are extractable from the analysis along with their eigenvalues. The first factor accounted for 23% of the variance, the second for 7%, third for 6% ect., a total of 72% of the total variance. All the remaining factors each controled only small amount of variance and accounted for the remaining 28%. The scree plot indicated that the curve began to flatten after factor 6. This makes me believe that the assumption regarding the six constructs is true. Even though factor analysis will not be presented in this paper, it will be performed outside of the scope of this paper.

One can generally conclude that all the six constructs of compliance, Reciprocation, Social Proof, Commitment and Consistency, Liking, Authority, and Scarcity relate to decision-making in the industry. Some beliefs play greater role than others, and in some areas there are different practices employed both within companies and within the industry.

Effect of cartels (Q56)

38,1% of the total respondents answered this open question.

This is a control question to the understanding of the threat of cartels in the industry. The provided responses are grouped into two categories as follows.

Positive signals of understanding the scale of the issue from the industry:

- higher prices for bought products and services have lead to unnecessary higher costs of investment and operation of power plants;
- worse products and product development;
- hinder entrance of new suppliers;
- purchasing process have become more systemized and professionalized both internally and in form of cooperation in the industry;
- have become more critical to the role of competition and information exchange between the industry and suppliers.

Negative signals from the industry:

- don't know (11% of responded)
- ***no or minimal effect (20% of responded)***

The results suggest that only a part of the industry might have understood the effects cartels have had on their company, the industry in total, and the whole society generally. The other part might either deny any effects due to satisfaction by the present state of things, or simply state the zero effect as a fact.

5. Conclusion

5.1 Discoveries and Implications

The el-industry is mostly represented by the executives with working experience over 10 years. The biggest group representing the ‘experience’ are technical executives and those who carry out both technical and commercial functions within their company. Relatively ‘young’ group are commercial executives, which may indicate that the industry takes steps towards greater distinguishing of these two dimensions in the procurement process.

The focus of this research was on following *question*:

Does buyers’ behaviour facilitate collusion on the marketplace?

Following findings were obtained:

Awareness of cartels in the supply market – past vs. present

A half of the industry is certain that they have not been exposed to supplier cartels, and only one-fourth part of it is aware about cartel disclosures among suppliers to the industry. Whereas commercial executives constitute the biggest part of those aware, the other two groups of executives are surprisingly little informed about the processes in the supplier markets despite their long experience in the industry.

Among the most well-known cartel disclosures in the industry is ABB and Siemens case which became known due coverage by the media, with further transfer of the information via systems of internal information exchange (e.g., from Head of Department to employees) within a single company.

Due to the *low alertness* of collusive behaviour among suppliers, the Norwegian Competitive Authority remains major tool of cartel disclosures in the industry.

Those executives, who have been aware of cartel disclosures, shown very little knowledge of the worldwide supplier market within the cartel exposed fields (from 40% to ca 70% don’t know how many suppliers are available in Norway, the EU or outside the EEA). Among the indicated levels only several (up to 6) suppliers of those known are present in Norway compared to a more varied supplier choice in the EU/EEA countries.

Regarding present situation on the supplier market, a half of the industry has no opinion on whether cartels may still exist. A rather considerable part of the industry (11%) is certain that there are no functioning cartels present in the supplier market. This part is represented mostly by technical executives and those who carry out both functions in the purchasing process. Commercial executives are those who are least optimistic regarding cartels.

Behaviour vs awareness

Whereas only somewhat insignificant part of the industry can avoid buying from cartel participants, the absolute majority still purchase goods and services from earlier disclosed cartel participants. However, this result is not unexpected due to the market specifics (described in a more detail in the theoretical part of this thesis).

Routines

When it comes to *organization of tenders in cartel-exposed fields* of procurement, the majority of the industry invites four to six bidders to tenders. One fifth of the responded tend to invite three or less bidders, when three is the minimum amount of suppliers one is allowed to invite to a tender, in case there are more suppliers are available on the market. The results indicate that one third of the respondents think that there are more than six suppliers available within the cartel-exposed fields in the EU/EEA. Hence, the revealed routine at parts of the industry is one that limits competition.

Behaviour

Points of contact with supplier

Though the majority of the industry (ca 70%) makes sure that both technical and commercial executives are involved in the procurement process with regard to communication with suppliers, almost one forth of the organisations involve commercial dimension *after* specification is developed (in even a worse case after contact with possible suppliers is made). Among otherwise employed routines in the industry, are the involvement of only one of the executives into the purchasing process (the most common practice when only one executive *does* in fact carry out both functions). In smaller companies only technical dimension is sometimes involved. On the contrary, in some part of large companies (11%) only commercial dimension is sometimes responsible for contact with suppliers.

Amount of suppliers on the bidder list

The majority of the industry (ca 60%) fulfils minimum requirement of the law inviting three to five suppliers when purchasing goods and services above the EEA threshold value. Only one third of the executives are striving for more competition and attempt to find more suppliers into the bidder list.

Sources of supplier search and selection

Sellihca is the most popular source of supplier selection (71,2%). Other sources of *supplier search* are Internet 35,6%, and Other sources 33,1%. Industry magazines 23,7%, and visit to exhibitions 12,7% are also popular. The category *Other* provided somewhat ambiguous results. Recommendations and references are one of the most frequent categories of supplier search, which indicates that information exchange does work within the industry. However, *use of familiar suppliers* was the next most popular answer in this category.

System routines and satisfaction

Ca 80% of the industry takes an initiative in expanding the *Sellihca* prequalification database. Only ca 60% of these is satisfied with *Sellihca*.

Doffin/TED

Ca 85% don't publish RFIs in Doffin/TED vs. ca 15% of those who do so.

Ca 10 % don't use either *Sellihca* or *Doffin* for supplier selection.

Another new finding is that ca 30% of commercial executives and those who carry out both functions don't have information on whether or not RFIs are published in *Doffin* in their companies. Since they are those who make this routine, this result may indicate two possible things:

- Those who think they perform commercial function in procurement are in fact technical executives representing internal customers. Thus, a great deal of roles confusion is at place;

or

- there is no routine about announcement of contract awards in *Doffin/TED*, and these respondents wanted to avoid to respond on this question.

One third of the industry never announces contract awards in Doffin/TED. All three size groups of companies are represented in this group.

Ca 40% of the industry are clear about that their companies *don't* have internal procedures that would ensure that contract awards with value above the EEA threshold become announced in Doffin/TED database. 40% avoided responding this question.

Relationships with suppliers

The majority of the industry (97%) invites Norwegian suppliers. Only half of them actively invite suppliers from the EU. Ca 80% *rarely* invites international suppliers from outside of the EU/EEA.

Earlier experience with suppliers vs. behaviour

Ca 60% of the industry has *never purchased from suppliers outside of the EEA*. Only one third of the industry has carried out international purchases. Those who *have* purchased have somewhat mixed type of experience with deliveries, though even those who didn't have positive experience invite same suppliers to tenders. The majority of those who had such experience now invite new suppliers from outside the EEA (ca 65%). This result indicates that positive experience plays an important but not determinant role in attitude formation.

Among the reasons for scepticism the leading ones were quality concerns and the suppliers' ability to document it. The buyers prefer to have international suppliers as sub-suppliers to Norwegian suppliers and let others take risks and solve problems leading to insecurity of deliveries.

Routine of entering into a contract with a foreign supplier

Half of the industry, represented by technical executives and those who carry out both functions are not aware of these routines. Ca 60% prefers to enter into a contract through a Norwegian representative and ca 40% dares to do it directly. The latter group is mostly represented by large companies.

Part of the existing suppliers which don't have a Norwegian registration number

For ca 10% of the industry suppliers without Norwegian registration number constitute more than 20% of the supplier database. For ca 70% of the companies such suppliers constitute up to 5% of the database.

Part of foreign contracts in total purchases in volume

For in total 26% of the industry foreign contracts constitute up to 20% of the purchase volume. For one forth of the industry, such contracts constitute more than 20% of the whole volume purchase. Hence, foreign suppliers constitute a little share in the supplier database, but make a bigger volume in purchases.

Requests for quotations (RFQs)

Generally companies have systems with internally developed standards for RFQs. Ca 85% of the industry uses templates, which ca 80% updates regularly. Ca 70% of the industry updates technical descriptions regularly. Leading positions in these routines take larger companies.

Contract standards

Ca 70% of the industry uses in-house *standard contract terms* on a regular basis. This is a competition hampering practice, as 1) it is possible that these terms of contracts are made specifically to match a certain supplier, 2) if these terms pressure risks to the supplier, the price of the solution can be higher than with use of other standard terms. Large companies are naturally those who use this practice the most (ca 40%) in their attempt to exploit their market power over suppliers.

For ca 60% of the industry, NS (Norwegian standard) is a regularly used standard as well. Since it was developed by Standard Norge, it is well-balanced on both, the supplier and the buyer side. Other standards are relatively rarely used; among them are international standards (Fidic, Orgalime, ICC) and some governmental standard agreements (SSA, IKT), which some part of the industry was not aware about.

Specification

Ca 80% of the industry uses function- or performance based specification on a regular basis. It doesn't favour any suppliers above others and let evaluate on objective criteria. Ca 65% of the industry regularly uses detail specification, which allows being more supplier-specific

when developing RFQs. Industry-standard specification is regularly used by ca 50% of the industry. Ca 20% of the industry favours supplier specification. The latter practice is one of the most popular among competition-limiting practices available for those who carry out procurements.

Language

Ca 70% of the industry from never to rarely prepares RFQs in English. Ca 50% of the industry doesn't have in-house terms of contract in English. For ca 50% contracts in English constitute less than 10%.

Bid-submitting deadlines

The industry avoids using short deadlines and gives preference to longer deadlines or a minimum deadline for procurements above the EEA threshold value, which is 24 days. Almost one third of the industry, mostly represented by big and medium-sized companies uses shorter deadlines (and they may have lawful reasons for that). Still, this is a competition-limiting practice, which may also be an indicator of problems with internal planning procedures for the company's total procurement.

Ca 70% of the industry rarely uses extended deadlines in order to attract new bidders.

This paper has examined levels of cartels awareness, methodology and underlying perceptions and attitudes regarding the supplier market and the conditions in which the industry operates. All in all, this study reveals that ca 10-20% of the industry always *does* what it takes in order to promote competition in the supplier market. Ca 10-30% of the Norwegian utility companies *do not* promote competition as a part of a conscious approach to the supplier market. The rest of the industry doesn't have a common approach, and 'quality' of their procurements can vary. Our primary hypothesis that ***Buyers' behaviour facilitates collusion on the marketplace*** is therefore confirmed for a part of the el-industry. Underlying reasons to such behaviour for the executives involved into the procurement process are embedded into the constructs of the perceived behavioural control and attitudes, which constitute an inner force that motivates the buyers to mobilize for action. The constructs are reviewed in detail in the Analysis part in this thesis.

The results derived in this paper suggest that the buyers should take into consideration following:

1) Increase levels of cartels awareness within the industry.

A low level of awareness of supplier cartels is related to the fact that the focus on cartels is low. The market player who is aware of the situation can take an active position on the issue and change market processes dramatically.

2) Focus on competition.

Expand the supplier markets by opening specifications, using English language in preparation of RFQs, allowing bids to be submitted in English language, using international contract terms etc.

The system that regulates the procurement process in the industry is formed in such a way that many options are available to the buyer, but it is his/ her decision to take an action.

3) Increase the role of the purchasing department in the purchasing process.

Commercial dimension used for managing relationships with suppliers and contractual conditions should be involved into the procurement process early in the planning process. This is the way to ensure an equal treatment of suppliers and secure that selection of suppliers happens on the basis of objective and non-discriminating criteria according to the fundamental requirements (§5) in the Public Procurement Act. The industry has to be more aware that violation of these rules of the Act and the pertaining Regulations can have serious economical consequences for the industry.

4) Finally, control the information flows on all levels of the procurement process.

The industry specialists may unwillingly provide suppliers with information that can be used in mechanisms of coordination and regulation of cartel behaviour. It is therefore important to be attentive to warning signals of collusive tendering and where possible limit the conditions for learning over time.

5.2 Limitations and suggestions to future research

The scientific approach to any research is to maximize its reliability and validity. *Reliability* refers to the consistency and stability of findings that enables findings to be replicated. *External validity* refers to the extent to which the results of a sample are transferable to a population.

The results of this survey are in sum generalizable to the population in the context of procurement process in el-industry in Norway. Though, some limitations must be considered.

Non-response bias. Not all companies provided with proportionate number of respondents from both sides of the procurement process. This is especially the case with large companies. While one of the biggest company was insufficiently represented by only one respondent, another one (Hafslund) refused to participate in the survey.

Response bias. It is possible that not all technical executives who participated in the survey are involved into the procurement process. For example, their area of responsibility may be project engineering, and they may have nothing to do with supplier evaluation. Sampling error (difference between the unknown population parameter and the sample statistic used to estimate the parameter) cannot be calculated.

Another undertaken limitation in the thesis is focusing on the buyer side. Other sources of information could include different points of view on the issue.

Reliability of measures is considered to be high as they were developed on the basis of clarifying interview, and the questionnaire was pretested. Though, some instrumentation bias (bias from question wording, etc.) have occurred. For example, including Don't know in the middle of the measuring scale produced somewhat unreliable results.

Some sensitive questions question reliability of gathered data. Of this reason bribery was not a focus of this survey due to sensitivity of the topic, and Reciprocation construct was not measured directly. Still, repeated surveying of the same respondents can possibly produce slightly different results. If that would be the case, results provided by this survey are more reliable.

Other methods of analysis could be used on different groups of questions. Then more hypotheses on dependencies between different variables could be developed. This was chosen not to do mainly due to time constraints (but also when there are many categories within each variable, larger samples would be needed). Variables and methodologies are adequately described for future replications.

The research has been carried out in Norwegian and later translated to English. Some terms might be affected.

Despite of all the limitations, to the author's knowledge this is the first attempt to date to research data in this field. Besides, this is the first time Cialdini's principles of persuasion and compliance are employed to explain industrial buying behaviour.

One possible suggestion to future research in this area can be analysing whether laws and regulations pertaining to Public Procurement may be conducive to collusion on the marketplace. Alternatively, it could be interesting to make a EU-research or one on the worldwide basis and see whether the collected data apply to the whole industry.

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7. Appendices

7.1 Appendix 1 – Survey questionnaire (in English)

1. How many employees are in your company?

	Less than 100	100-500	More than 500
Check (X)			

2. What type of company do you work in?

	Energy production	Distribution	District heating	Other
Check (X)				

3. How long have you worked in this industry sector (years)?

	Less than 3	3-10	More than 10
Check (X)			

4. Do you work on commercial or technical side in procurement?

	Commercial	Technical	Both
Check (X)			

5. How well do you know the regulations relating to public procurement?

	Proficient	Well	Need more training	Not relevant
Check (X)				

6. Do you know that your company has been exposed to cartels?

NB: **Cartel** – collusion between suppliers in order to control market price or share the market.

	Yes	No	Don't know
Check (X)			

If "Yes":

7. In which field?

Specify

8. Which suppliers you know were involved in this practice?

Specify

9. How was the cartel disclosed?

Specify

10. How did you get to know about the cartel?

Specify

11. Do you continue to purchase from the cartel participants?

	Yes	No	Don't know
Check (X)			

12. Within the cartel exposed field, how many suppliers are present in Norway?

	3 or less	4-6	More than 6	Don't know
Check (X)				

13. Within the cartel exposed field, how many suppliers are present in the EU?

	3 or less	4-6	More than 6	Don't know
Check (X)				

14. Within the cartel exposed field, how many suppliers are present outside the EU?

	1	3 or less	4-6	More than 6	Don't know
4. Within the cartel exposed field, how many suppliers are present outside the EU?					
Check (X)					

15. How many suppliers do you invite when you buy within this field?

	3 or less	4-6	More than 6	Don't know
Check (X)				

16. Do you believe cartels still exist in the supplier market to the energy industry?

	Yes	No	Don't know
Check (X)			

17. How do you organize procurement with regard to communication with the supplier?

	Only technical executive is involved	Only commercial executive is involved	Both technical and commercial executives are involved
Check (X)			

18. At which stage does the commercial executive become involved in the procurement process?

	Early in the planning process of the procurement	After specification is developed	After contact with possible suppliers is made
Check (X)			

19. How many suppliers are usually on your bidders list?

	1 or 2	3-5	More than 5
Check (X)			

20. How often do you use following methods of selecting suppliers to your bidder list?
(Check X)

	Never	Very rarely	Rarely	Don't know	Frequently	Very frequently	Always
Sellihca							
Internet							
Industry magazines							
Visit to exhibitions							
Other							

21. If "Other":

Specify

22. Are you satisfied with the supplier choice in Sellihca?

	Very dissatisfied	Dissatisfied	Somewhat dissatisfied	Don't know	Somewhat satisfied	Satisfied	Very satisfied
Check (X)							

23. Do you encourage suppliers that are not in Sellihca to register there?

	Yes	No	Not relevant
Check (X)			

24. How often do you publish requests for information in Doffin/TED?

	Never	Very rarely	Rarely	Don't know	Frequently	Very frequently	Always
Check (X)							

25. How often do you announce contract awards in Doffin/TED?

	Never	1-3 times pr year	More than 3 times pr year	Announce all assignments (over 3,2 mil NOK)	Don't know
Check (X)					

26. Do you have an internal procedure that ensures that contract awards become announced in Doffin/TED?

	Yes	No	Don't know
Check (X)			

27. How do you agree with following propositions? (Check X)

	Strongly agree	Agree	Some-what agree	Don't know	Some-what disagree	Disagree	Strongly disagree
I can get more competition by publishing more requests for information in Doffin/TED							
I can get more competition by announcing more contract awards in Doffin/TED							
Sellihca provides a sufficient choice of suppliers							

28. Have you ever purchased from other countries than the EEA?

	Yes	No	Don't know
Check (X)			

If "Yes":

29. How did the deliveries work?

	The product was		The delivery was		Other
	poor	according to agreement	delayed	according to agreement	(specify if needed)
Check (X)					

30. Do you still invite these suppliers to tenders?

	Yes	No	Don't know
Check (X)			

31. Do you invite suppliers from outside the EEA?

	Yes	No	Don't know
Check (X)			

32. How often do you invite suppliers from: (Check X)

	Never	Very rarely	Rarely	Don't know	Frequently	Very frequently	Always
Norway?							
the EU?							
outside the EU?							

33. How often are you satisfied with the deliveries from: (Check X)

	Never	Very rarely	Rarely	Don't know	Frequently	Very frequently	Always
Norway?							
the EU?							

That RFQ is prepared in English							
That a bid can be submitted in English							

40. What is the share of Norwegian language RFQs in your company, ca?

	Under 10%	10-50%	51-70%	71-80%	Over 80%
Check (X)					

41. Do you have in-house terms of contract in English?

	Yes	No	Don't know
Check (X)			

42. How often do you use the following deadlines in competitions with negotiation?

	Never	Very rarely	Rarely	Don't know	Frequently	Very frequently	Always
Less than 24 days							
24 days							
More than 24 days							

43. How often do you use an extended deadline in order to attract new market players?

	Never	Very rarely	Rarely	Don't know	Frequently	Very frequently	Always
Check (X)							

44. What part of your contracts above the EEA threshold value is in English?

	Under 10%	10-50%	Over 50%	Don't know
Check (X)				

45. When you enter into a contract with a supplier that doesn't have a Norwegian registration number, how do you do it?

	Directly	Through a Norwegian representative	Don't know
Check (X)			

46. How many of your suppliers don't have a Norwegian registration number, ca?

	Less than 1%	1-5%	6-10%	11-20%	More than 20%	Don't know
Check (X)						

47. What part in total purchases in volume have foreign contracts, ca?

	Less than 1%	1-5%	6-10%	11-20%	More than 20%	Don't know
Check (X)						

48. Whom do you believe has greater impact on who is awarded the contract?

	The technical executive	The commercial executive	Both technical and commercial executives have equal impact
Check (X)			

49. Whom do you think should have greater impact on who is awarded the contract?

	The technical executive	The commercial executive	Both technical and commercial executives should have equal impact
Check (X)			

50. How do you agree with the following statements? (Check X)

	Strongly agree	Agree	Somewhat agree	Don't know	Somewhat disagree	Disagree	Strongly disagree
In my opinion there is a real competition in the market							
I don't let myself be manipulated by suppliers							
I regularly have to carry out urgent deliveries							
I regularly have too little time to carry out procurement projects correctly							
I don't have time to check references in the bid							
References provided in the bid give valuable information regarding the procurement							
It is resource-demanding to administrate many bidders							
It is time-consuming to evaluate many bids							
The submitting deadlines are too short to attract new market players							
The outcome is in too large degree determined by procurement regulations							
I am comfortable with using English as business language in preparation of RFQ and in negotiations							

How do you agree with the following statements? (Check X)

51. Announcement of tenders in Sellihca leads to:

	Strongly agree	Agree	Somewh at agree	Don't know	Some-what disagree	Dis-agree	Strongly disagree
Better market situation							
Better products							
Higher quality							
Better reliability							
Reduced delivery times							
Lower risk							
Lower prices							

52. Announcement of competitions in Doffin/TED leads to:

	Strongly agree	Agree	Somewh at agree	Don't know	Some-what disagree	Dis-agree	Strongly disagree
Better market situation							
Better products							
Higher quality							
Better reliability							
Reduced delivery times							
Lower risk							
Lower prices							

53. Announcement of awarded contracts in Doffin/TED leads to:

	Strongly agree	Agree	Somewh at agree	Don't know	Some-what disagree	Dis-agree	Strongly disagree
Better market situation							
Better products							
Higher quality							
Better reliability							
Reduced delivery times							
Lower risk							
Lower prices							

54. Sending of RFQ to suppliers outside the EEA leads to:

	Strongly agree	Agree	Somewhat agree	Don't know	Somewhat disagree	Disagree	Strongly disagree
Better market situation							
Better products							
Higher quality							
Better reliability							
Reduced delivery times							
Lower risk							
Lower prices							

55. Finally, how do you agree with the following statements?

	Strongly agree	Agree	Somewhat agree	Don't know	Somewhat disagree	Disagree	Strongly disagree
A high price indicates higher quality							
Well-known brands indicate high quality							
Well-known suppliers indicate security							
I give references and make positive statements about products that I buy							
I give recommendations to colleagues if suppliers ask about it							
I participate with suppliers in product development							
I participate in external user forums							
New and unknown suppliers lead to increased risk							
New and unknown suppliers lead to greater need for training							
Unfamiliar brands indicate increased risk							
Unfamiliar brands indicate greater need for training							
It is important that the industry has a common approach to the supplier market							
Established technical standards hamper technology development							
Established templates for RFQ and							

	Strongly agree	Agree	Somewhat agree	Don't know	Somewhat disagree	Disagree	Strongly disagree
general contract terms hamper more competition							
Use of internationally known standard terms of contract encourages competition							
Use of internationally known standard terms of contract increases our risk exposure							
Use of English in RFQ increases our risk exposure							
It is okay not to announce competitions in Doffin/TED, because this is common procedure							
It is okay not to announce awarded contracts in Doffin/TED, because this is common procedure							
It is okay not to announce awarded contracts in Doffin/TED, because it has no consequences							
It is important that the supplier is known in our industry							
It is important that the supplier knows our company							
It is important that the supplier has a local presence							
It is important that the supplier knows Norwegian conditions							
Networks established by known suppliers are important for the industry							
Replacing a product is unreasonably costly							
Replacing a supplier is unreasonably costly							
I will rather relate to suppliers I already have a positive experience with (companies)							
I will rather relate to suppliers I know (persons)							
I will rather relate to suppliers my colleagues are familiar with							
I will rather relate to suppliers who have the same business culture as I							
I will rather relate to suppliers who							

	Strongly agree	Agree	Somewhat agree	Don't know	Somewhat disagree	Disagree	Strongly disagree
Speak the same language as I							
Network from college is important to the industry							
Network from professional life is important to the industry							
I rely on informal references about a product from my colleagues							
I rely on informal references about suppliers from my colleagues							
I rely on formal references about a product from my colleagues							
I rely on formal references about suppliers from my colleagues							
It is better to choose same products as other energy companies use							
It is better to choose same suppliers as other energy companies use							
We should not be a pilot-buyer for new products and suppliers							
It is better to buy from a niche-supplier to the energy industry than from suppliers to other industries							
It is okay to pay more for deliveries from a niche-supplier							
I would rather buy from a supplier who only has the EU as market							
It is necessary to have several bids to evaluate							
It is okay to pay more if this leads to reduced delivery times							
An extended submitting deadline attracts new suppliers							
It is important to check stated references							
Use of English in the preparation of RFQ leads to more competition							

56. What affect have cartels had on your company?

Specify

57. Comments

Specify

7.2 Appendix 2 – Survey questionnaire (in Norwegian)

Spørreundersøkelse om konkurransforhold i leverandørmarkedet til energibransjen

Hei

Jeg heter Natalia Dalane og jobber til daglig som kontraktskonsulent i BKK. Jeg er i den avsluttende fasen med min masteroppgave i markedsføring og konkurranseanalyse ved NHH. Oppgaven omhandler kartellvirksomhet rettet mot energibransjen i Norge, og hvordan konkurranse blir brukt for å motvirke dette.

Det har de 10-12 siste årene blitt avslørt en rekke karteller i Norge og EU som berører energibransjen. Deres selskap er ett av mange energiselskaper som er rammet av dette. I oppgaven ønsker jeg å se på hvordan dette har påvirket markedssituasjonen, ved å **kartlegge oppfatninger og arbeidsmetodikk** hos aktører som er involvert i anskaffelsesprosesser.

Listen med kontaktpersoner for denne undersøkelsen er hentet fra Sellihca, samt navn oppgitt av de aktuelle selskapene. Det er imidlertid ikke en forutsetning at respondenten er bruker av Sellihca. Undersøkelsen retter seg til dem som gjør anskaffelser, enten teknisk eller kommersiell saksbehandling, uavhengig av hvilket system de benytter i prosessen. Vi er klar over at noen selskaper benytter avtaler som er inngått av andre, men det er likevel ønskelig å registrere **hvordan de forholder seg til leverandørmarkedet**.

Denne undersøkelse fokuserer på **anskaffelser med verdi over EØS-terskel (3,2 MNOK)**.

Vennligst avsett ca 30 minutter for å besvare spørreskjemaet og gjør det snarest mulig og innen utgangen av uke 11 (senest innen **fredag 19. mars**).

Respondentens identitet vil bli anonymisert. Alle besvarelser vil kun bli behandlet av meg.

De som deltar i undersøkelsen vil få tilsendt resultatet etter semesterets avslutning.

Jeg håper på en god oppslutning og på forhånd takker deg for hjelpen. Dersom det er spørsmål til utfyllingen, ta gjerne kontakt med meg på e-post adresse natalia.dalane@bkk.no eller mobil 94 88 33 51.

Med vennlig hilsen
Natalia Dalane

Bergen 03.03.2010

Der det er mulig å krysse av i flere rubrikker, må du velge den som er mest vanlig. Spørreskjemaet består av 57 spørsmål. Forsøk å svare på alle spørsmål. Eventuelle kommentarer kan skrives i slutten av skjemaet.

1. Hva er antall ansatte i ditt selskap?

	Mindre enn 100	100-500	Over 500
Kryss av (X)			

2. Type selskap du tilhører til

	Produksjonsselskap	Nettselskap	Fjernvarme	Annet
Kryss av (X)				

3. Hvor lenge har du jobbet i bransjen (antall år)?

	Mindre enn 3	3-10	Over 10
Kryss av (X)			

4. Arbeider du på merkantil side eller teknisk side i anskaffelser?

	Merkantil	Teknisk	Begge
Kryss av (X)			

5. Hvor godt kjenner du regelverket for offentlige anskaffelser?

	Inngående	God	Trenger opplæring	Ikke relevant
Kryss av (X)				

6. Har du kjennskap til at ditt selskap har vært utsatt for kartell?

NB: **Et kartell** – et samarbeid mellom leverandører for å kontrollere markedspris eller dele markedet.

	Ja	Nei	Vet ikke
Kryss av (X)			

Hvis "Ja":

7. Innen hvilket område?

Spesifiser

8. Hvilke leverandører vet du var innblandet i dette?

Spesifiser

9. Hvordan ble kartellet avslørt?

Spesifiser

10. Hvordan fikk du kjennskap til kartellet?

Spesifiser

11. Kjøper du fortsatt fra kartellmedlemmene?

	Ja	Nei	Vet ikke
Kryss av (X)			

12. Innen det kartellutsatte området, hvor mange leverandører finnes det i Norge?

	3 eller mindre	4-6	Flere enn 6	Vet ikke
Kryss av (X)				

13. Innen det kartellutsatte området, hvor mange leverandører finnes det i EU?

	3 eller mindre	4-6	Flere enn 6	Vet ikke
Kryss av (X)				

14. Innen det kartellutsatte området, hvor mange leverandører finnes utenfor EU?

	3 eller mindre	4-6	Flere enn 6	Vet ikke
Kryss av (X)				

15. Hvor mange leverandører spør du når du skal kjøpe innen dette område?

	3 eller mindre	4-6	Flere enn 6	Vet ikke
Kryss av (X)				

16. Tror du at det fortsatt er kartellvirksomhet rettet mot energibransjen?

	Ja	Nei	Vet ikke
Kryss av (X)			

17. Hvordan organiseres anskaffelser mht kommunikasjon med leverandør?

	Kun den tekniske saksbehandleren involvert	Kun den merkantile saksbehandleren involvert	Både den tekniske og den merkantile saksbehandlere er involvert
Kryss av (X)			

18. På hvilket tidspunkt blir den kommersielle saksbehandleren tatt inn i anskaffelsen?

	Tidlig under planlegging av anskaffelser	Etter spesifisering er utarbeidet	Etter at man har tatt kontakt med mulige leverandører
Kryss av (X)			

19. Hvor mange leverandører pleier å være på din tilbyderliste?

	1 eller 2	3-5	Over 5
Kryss av (X)			

20. Hvor ofte benytter du følgende måter til å velge ut leverandører? (Kryss av)

	Aldri	Svært sjelden	Sjelden	Vet ikke	Ofte	Svært ofte	Alltid
Søker i Sellihca							
Søker på internett							
Bransjeblader							
Besøk av messer							
Annet							

21. Om "Annet":

Spesifiser

22. Er du fornøyd med leverandørutvalget i Sellihca?

	Ikke fornøyd	Veldig lite fornøyd	Lite fornøyd	Vet ikke	Litt fornøyd	Fornøyd	Veldig fornøyd
Kryss av (X)							

23. Oppfordrer du leverandører som ikke finnes i Sellihca om å registrere seg der?

	Ja	Nei	Ikke relevant
Kryss av (X)			

24. Hvor ofte utlyser du konkurranser i Doffin/TED?

	Aldri	Svært sjelden	Sjelden	Vet ikke	Ofte	Svært ofte	Alltid
Kryss av (X)							

25. Hvor ofte kunngjør dere inngåtte kontrakter i Doffin/TED?

	Aldri	1-3 ganger pr år	Over 3 ganger pr år	Kunngjør tildelinger (over 3,3 mil NOK)	alle	Vet ikke
Kryss av (X)						

26. Har dere en intern rutine som sikrer at inngåtte kontrakter blir kunngjort i Doffin/TED?

	Ja	Nei	Vet ikke
Kryss av (X)			

27. Hvor enig er du i følgende påstander? (Kryss av)

	Veldig enig	Enig	Noe enig	Vet ikke	Noe uenig	Ikke enig	Svært uenig
Jeg tror jeg ville få mer konkurranse ved å utlyse flere forespørsler i Doffin/TED							
Jeg tror jeg ville få mer konkurranse ved å kunngjøre flere inngåtte kontrakter i Doffin/TED							
Sellihca gir et tilstrekkelig leverandørutvalg							

28. Har du noen gang kjøpt fra andre land enn EØS?

	Ja	Nei	Vet ikke
Kryss av (X)			

Hvis "Ja":

29. Hvordan fungerte leveransene?

	Produktet var		Leveransen var		Annet (spesifiser ved behov)
	dårlig	i henhold til avtale	forsinket	i henhold til avtale	
Kryss av (X)					

30. Forespør dere disse leverandører fortsatt?

	Ja	Nei	Vet ikke
Kryss av (X)			

31. Forespør dere andre leverandører fra utenfor EØS?

	Ja	Nei	Vet ikke
Kryss av (X)			

32. Hvor ofte forespør dere leverandører fra: (Kryss av)

	Aldri	Svært sjelden	Sjelden	Vet ikke	Ofte	Svært ofte	Alltid
Norge?							
EU?							
utenfor EU?							

33. Hvor ofte er dere fornøyd med leveransene fra: (Kryss av)

	Aldri	Svært sjelden	Sjelden	Vet ikke	Ofte	Svært ofte	Alltid
Norge?							
EU?							
utenfor EU?							

34. Benytter dere maler for å utarbeide konkurransegrunnlag?

	Ja	Nei	Vet ikke
Kryss av (X)			

35. Har dere de 2 siste årene gjort endringer i følgende? (Kryss av)

	Ja	Nei	Vet ikke
- i maler for forespørsler			
- i tekniske beskrivelser			

36. Hvor ofte benytter du følgende standard vilkår? (Kryss av)

	Aldri	Svært sjelden	Sjelden	Vet ikke	Ofte	Svært ofte	Alltid
NL01							
AKB1988							
AKS89							
AIS89							

Fidic, Orgalime, ICC							
NS-bygg standarder							
Kolemo							
SSA, IKT							
Egenutviklede standard vilkår							
Andre							

37. Om "Andre":

Spesifiser

38. Hvor ofte benytter dere følgende spesifikasjon? (Kryss av)

	Aldri	Svært sjelden	Sjelden	Vet ikke	Ofte	Svært ofte	Alltid
Detaljspesifikasjon							
Funksjons- eller ytelsesbasert spesifikasjon							
Bransje-standard spesifikasjon							
Leverandørens spesifikasjon							

39. Hvor ofte åpner dere for følgende:

	Aldri	Svært sjelden	Sjelden	Vet ikke	Ofte	Svært ofte	Alltid
At konkurransegrunnlaget utarbeides på engelsk							
At tilbud kan leveres på engelsk							

40. Andel av forespørslene utarbeidet kun på norsk i ditt selskap, ca?

	Under 10%	10-50%	51-70%	71-80%	Over 80%
Kryss av (X)					

41. Har dere egenutviklede standard vilkår skrevet på engelsk?

	Ja	Nei	Vet ikke
Kryss av (X)			

42. Hvor ofte bruker dere følgende tilbudsfrister i konkurranser med forhandlinger?

	Aldri	Svært sjelden	Sjelden	Vet ikke	Ofte	Svært ofte	Alltid
Mindre enn 24 dager							
24 dager							
Mer enn 24 dager							

43. Hvor ofte benytter dere en utvidet tilbudsfrist for å tiltrekke nye markedsaktører?

	Aldri	Svært sjelden	Sjelden	Vet ikke	Ofte	Svært ofte	Alltid
Kryss av (X)							

44. Hvor stor andel av dine kontrakter over EØS-terskelverdi er utformet på engelsk?

	Under 10%	10-50%	Over 50%	Vet ikke
Kryss av (X)				

45. Når du inngår en avtale med en leverandør som ikke har et norsk organisasjonsnummer, hvordan gjør du dette?

	Direkte	Via en norsk representant	Vet ikke
Kryss av (X)			

46. Hvor mange av dine leverandører har ikke et norsk organisasjonsnummer, ca?

	Mindre enn 1%	1-5%	6-10%	11-20%	Over 20%	Vet ikke
Kryss av (X)						

47. Hvor stor andel av totalt kjøp i volum utgjør slike utenlandske avtaler, ca?

	Mindre enn 1%	1-5%	6-10%	11-20%	Over 20%	Vet ikke
Kryss av (X)						

48. Hvem tror du har mest innflytelse på hvem som tildeles kontrakten?

	Den tekniske saksbehandleren	Den merkantile saksbehandleren	Den tekniske og den merkantile saksbehandlere har like stor innflytelse
Kryss av (X)			

49. Hvem mener du bør ha mest innflytelse på hvem som tildeles kontrakten?

	Den tekniske saksbehandleren	Den merkantile saksbehandleren	Den tekniske og den merkantile saksbehandlere har like stor innflytelse
Kryss av (X)			

50. Hvor enig er du i følgende påstander? (Kryss av)

	Veldig enig	Enig	Noe enig	Vet ikke	Noe uenig	Ikke enig	Svært uenig
Jeg opplever at det er en reell konkurranse i markedet							
Jeg lar meg ikke manipulere av leverandører							
Jeg må ofte gjennomføre hasteleveranser							
Jeg har ofte for lite tid til å gjennomføre anskaffelser på en riktig måte							

Jeg har ikke tid til å sjekke referanser i tilbudet							
Referanser oppgitt i tilbudet gir verdifull informasjon for anskaffelsen							
Det er ressurskrevende å administrere mange tilbydere							
Det er tidskrevende å ha mange tilbud å evaluere							
Tilbudsfristene er for kort til å tiltrekke nye aktører							
Utfallet av prosessen er i for stor grad styrt av rutiner og regelverk							
Jeg er bekvem med å benytte engelsk som forretningsspråk i forespørsler og forhandlinger							

Hvor enig er du i følgende påstander? (Kryss av)

51. Utlysning av konkurranser i Sellihca fører til:

	Veldig enig	Enig	Noe enig	Vet ikke	Noe uenig	Ikke enig	Svært uenig
Bedre markedssituasjon							
Bedre produkt							
Høyere kvalitet							
Større pålitelighet							
Kortere leveringstider							
Lavere risiko							
Lavere priser							

52. Utlysning av konkurranser i Doffin/TED fører til:

	Veldig enig	Enig	Noe enig	Vet ikke	Noe uenig	Ikke enig	Svært uenig
Bedre markedssituasjon							
Bedre produkt							
Høyere kvalitet							
Større pålitelighet							
Kortere leveringstider							
Lavere risiko							
Lavere priser							

53. Kunngjøring av tildelte kontrakter i Doffin/TED fører til:

	Veldig enig	Enig	Noe enig	Vet ikke	Noe uenig	Ikke enig	Svært uenig
Bedre markedssituasjon							
Bedre produkt							
Høyere kvalitet							
Større pålitelighet							
Kortere leveringstider							
Lavere risiko							
Lavere priser							

54. Utsending av forespørsler til leverandører utenfor EØS fører til:

	Veldig enig	Enig	Noe enig	Vet ikke	Noe uenig	Ikke enig	Svært uenig
Bedre markedssituasjon							
Bedre produkt							
Høyere kvalitet							
Større pålitelighet							
Kortere leveringstider							
Lavere risiko							
Lavere priser							

55. Til avslutning ønsker jeg at du tar stilling til følgende påstander:

	Veldig enig	Enig	Noe enig	Vet ikke	Noe uenig	Ikke enig	Svært uenig
Høy pris betyr høy kvalitet							
Kjente merkenavn betyr høy kvalitet							
Kjente leverandører betyr trygghet							
Jeg gir referanser og positive uttalelser om produkter jeg kjøper							
Jeg gir anbefalinger til andre saksbehandlere dersom leverandører ber om det							
Jeg deltar i utvikling av produkter sammen med leverandører							
Jeg deltar i eksterne brukerforum							
Nye og ukjente leverandører medfører økt risiko							

	Veldig enig	Enig	Noe enig	Vet ikke	Noe uenig	Ikke enig	Svært uenig
Nye og ukjente leverandører medfører stort behov for opplæring							
Ukjente merkenavn medfører økt risiko							
Ukjente merkenavn medfører økt behov for opplæring							
Det er viktig at bransjen har en felles tilnærming til leverandørmarkedet							
Etablerte tekniske standarder forhindrer teknologiutvikling							
Etablerte maler for forespørsler og generelle kontraktsvilkår forhindrer mer konkurranse							
Bruk av internasjonalt kjente standard kontraktsvilkår er konkurransefremmende							
Bruk av internasjonalt kjente standard kontraktsvilkår øker vår risikoeksponering							
Bruk av engelsk i forespørsler og kontrakter øker vår risikoeksponering							
Det er greit å ikke utlyse i konkurranser Doffin/TED, fordi dette er vanlig i bransjen							
Det er greit å ikke kunngjøre inngåtte kontrakter i Doffin/TED, fordi dette er vanlig i bransjen							
Det er greit å ikke kunngjøre inngåtte kontrakter i Doffin/TED, fordi dette får ikke noe konsekvens							
Det er viktig at leverandør er kjent i vår bransje							
Det er viktig at leverandør kjenner vår bedrift							
Det er viktig at leverandør befinner seg i nærheten							
Det er viktig at leverandør kjenner til norske forhold							
Nettverk bygget av kjente leverandører er viktig for bransjen							
Å skifte et produkt er urimelig kostnadsdrivende							
Å skifte en leverandør er kostnadsdrivende							
Jeg vil helst forholde meg til leverandører jeg har allerede positiv erfaring med (selskap)							

	Veldig enig	Enig	Noe enig	Vet ikke	Noe uenig	Ikke enig	Svært uenig
Jeg vil helst forholde meg til leverandører jeg kjenner (person)							
Jeg vil helst forholde meg til leverandører mine kolleger kjenner							
Jeg vil helst forholde meg til leverandørene som har felles forretningskultur med meg							
Jeg vil helst forholde meg til leverandørene som snakker samme språk som jeg							
Nettverk fra studietiden er viktig for bransjen							
Nettverk bygget i arbeidslivet er viktig for bransjen							
Jeg vektlegger i stor grad uformelle referanser om et produkt fra mine kolleger							
Jeg vektlegger i stor grad uformelle referanser om en leverandør fra mine kolleger							
Jeg vektlegger i stor grad formelle referanser om et produkt fra mine kolleger							
Jeg vektlegger i stor grad formelle referanser om en leverandør fra mine kolleger							
Det er best å velge samme produkter som andre energiselskaper benytter							
Det er best å velge samme leverandører som andre energiselskaper benytter							
Vi skal ikke være pilot-kunde for nye produkter og leverandører							
Det er bedre å kjøpe fra nisjeleverandør til energibransjen enn fra leverandører til andre bransjer							
Det er greit å betale mer for leveranser fra en nisjeleverandør							
Jeg vil helst kjøpe fra en leverandør som kun har EU som et marked							
Det er nødvendig å ha flere tilbud å evaluere							
Det er greit å betale mer dersom dette medfører kortere leveringstid							

	Veldig enig	Enig	Noe enig	Vet ikke	Noe uenig	Ikke enig	Svært uenig
En utvidet tilbudsfrist tiltrekker nye leverandører							
Det er viktig å sjekke oppgitte referanser							
Bruk av engelsk i utarbeidelse av konkurransegrunnlaget fører til mer konkurranse							

56. Hvilken virkning har kartellvirksomhet hatt for deres selskap?

Spesifiser

57. Eventuelle kommentarer

Spesifiser

7.3 Appendix 3 – Attitude constructs according to Cialdini

'Reciprocation'

		Statistics		
		55a)	55b)	55c)
N	Valid	118	118	118
	Missing	0	0	0
Mean		4.43	3.75	2.69
Median		5.00	3.00	3.00
Mode		3	3	3
Std. Deviation		1.550	1.346	.882
Skewness		-.109	.674	1.098
Std. Error of Skewness		.223	.223	.223
Minimum		1	1	1
Maximum		7	7	6

Min=1, 'Strongly Agree', Max=7, 'Strongly Disagree'.

Commitment and consistency

		Statistics			
		55d)	55e)	55f)	55g)
N	Valid	118	118	118	118
	Missing	0	0	0	0
Mean		2.98	3.75	4.14	3.95
Median		3.00	3.00	4.00	3.00
Mode		3	2 ^a	3	3
Std. Deviation		1.240	1.731	1.734	1.858
Skewness		1.017	.391	.068	.214
Std. Error of Skewness		.223	.223	.223	.223
Minimum		1	1	1	1
Maximum		7	7	7	7

a. Multiple modes exist. The smallest value is shown

Social Proof

		Statistics												
		55h)	55i)	55j)	55k)	55l)	55m)	55n)	55o)	55p)	55q)	55r)	55s)	55t)
N	Valid	118	118	118	118	118	118	118	118	118	118	118	118	118
	Missing	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean		3.05	2.87	3.11	3.03	2.94	4.03	4.68	2.97	4.45	4.12	4.53	4.48	4.42
Median		3.00	3.00	3.00	3.00	3.00	4.00	5.00	3.00	4.00	4.00	4.00	4.00	4.00
Mode		3	3	3	3	2	3	6	3	4	4	4	4	4
Std. Deviation		1.131	1.017	1.084	1.151	1.385	1.453	1.501	1.205	1.278	1.492	1.506	1.431	1.398
Skewness		.800	.705	.596	.840	.755	.023	-.527	.454	.053	.013	-.020	-.028	.044
Std. Error of Skewness		.223	.223	.223	.223	.223	.223	.223	.223	.223	.223	.223	.223	.223
Minimum		1	1	1	1	1	1	1	1	1	1	1	1	1
Maximum		6	6	6	6	7	7	7	6	7	7	7	7	7

Liking

		Statistics											
		55u)	55v)	55w)	55x)	55y)	55z)	55aa)	55bb)	55cc)	55dd)	55ee)	55ff)
N	Valid	118	118	118	118	118	118	118	118	118	118	118	118
	Missing	0	0	0	0	0	0	0	0	0	0	0	0
	Mean	2.60	3.80	4.02	2.50	3.78	4.25	4.33	3.88	4.61	4.79	3.90	3.48
	Median	2.00	3.00	3.00	2.00	3.50	5.00	5.00	3.00	5.00	5.00	3.00	3.00
	Mode	2	3	3	2	3	5	5	3	3	5	3	2 ^a
	Std. Deviation	1.087	1.625	1.622	1.175	1.575	1.427	1.480	1.660	1.649	1.478	1.566	1.801
	Skewness	1.338	.190	.168	1.351	.278	-.155	-.154	.546	-.180	-.321	.321	.488
	Std. Error of Skewness	.223	.223	.223	.223	.223	.223	.223	.223	.223	.223	.223	.223
	Minimum	1	1	1	1	1	1	1	1	1	1	1	1
	Maximum	6	7	7	6	7	7	7	7	7	7	7	7

a. Multiple modes exist. The smallest value is shown

Authority

		Statistics									
		55gg)	55hh)	55ii)	55jj)	55kk)	55ll)	55mm)	55nn)	55oo)	
N	Valid	118	118	118	118	118	118	118	118	118	
	Missing	0	0	0	0	0	0	0	0	0	
	Mean	4.68	3.03	4.19	4.13	3.06	3.07	4.22	4.36	3.93	
	Median	5.00	3.00	4.00	4.00	3.00	3.00	4.00	5.00	4.00	
	Mode	6	2	3	3	3	3	3	3	5	
	Std. Deviation	1.643	1.374	1.473	1.453	1.193	1.153	1.457	1.454	1.652	
	Skewness	-.257	.979	.047	.098	.897	.853	.165	-.099	-.040	
	Std. Error of Skewness	.223	.223	.223	.223	.223	.223	.223	.223	.223	
	Minimum	1	1	1	1	1	1	1	1	1	
	Maximum	7	7	7	7	7	7	7	7	7	

Scarcity

		Statistics		
		55pp)	55qq)	55rr)
N	Valid	118	118	118
	Missing	0	0	0
	Mean	4.22	4.95	5.09
	Median	4.00	5.00	5.00
	Mode	4	6	6
	Std. Deviation	1.397	1.370	1.450
	Skewness	.210	-.475	-.576
	Std. Error of Skewness	.223	.223	.223
	Minimum	1	1	1
	Maximum	7	7	7

'Sensitive' questions

		Statistics			
		55p)	55r)	55s)	55t)
N	Valid	73	71	68	58
	Missing	45	47	50	60
	Mean	4.73	4.89	4.84	4.84
	Median	5.00	6.00	5.50	5.00
	Mode	5	6	6	6
	Std. Deviation	1.566	1.864	1.809	1.908
	Skewness	-.489	-.594	-.624	-.664
	Std. Error of Skewness	.281	.285	.291	.314
	Minimum	1	1	1	1
	Maximum	7	7	7	7