University of Twente
Faculty of Business, Management, and Social Sciences
prof. dr. Louise Knight
dr. Carolina Belotti Pedroso
Steven Borobia, MSc

Master Thesis

Title: Hospital buyer's responses to anti-competitive behaviour

Submitted by: Pim Hovestad
S1733443

Contact e-mail: p.h.hovestad@gmail.com
Number of pages/words: 31/11869
Bibliography programme used: Mendeley

Enschede, September 29th, 2023

Abstract:

Supply markets for hospitals are characterized by high market concentration, which indicates a risk of anti-competitive practices (ACPs). This study has considered ACPs from the standpoint of practitioners in the hospital sector who are confronted with them and investigated strategies aimed at mitigating such practices. Nine purchasing professionals from hospitals in the Netherlands have been interviewed. Using the Critical Incident Technique (CIT), data on 31 instances of anti-competitive practices were gathered. Hospital purchasers are facing powerful suppliers, who are attempting to increase their power over the hospital and exploit this position, which leads to supply risks and increased costs. In response, actions taken by respondents were aimed at reducing internal dependencies, which increased their ability to change to another supplier or the substitutability of a product. However, there was also a sense of powerlessness amongst purchasers, which led to strategies to safeguard against abusive behaviours.

Table of Contents

1 Introduction

1.1 Background

Over 91% of world gross domestic product is currently under scrutiny of some form of competition law (OECD, 2022). Whish and Bailey (2016) stated that the primary goal of competition law is to protect healthy competition in the market and maximise consumer welfare. Firms that have gained too much market power can harm consumer welfare. For example, they can do this by taking actions to increase prices to levels that would not be possible under healthy competition, and by using their dominant position to exclude (potential) competitors, increasing or maintaining their own power (Whish & Bailey, 2016). These practices are generally referred to as anti-competitive practices (ACPs).

In 2019, the total purchasing volume of hospitals in the Netherlands can be estimated at around 8 billion euros[1]. In contrast, the yearly revenues of some of the largest multinational corporations supplying medical devices to hospitals are 82 bln USD (Johnson & Johnson, 2019), 30 bln USD (Medtronic, 2019). and 19 bln EUR (Philips, 2019), The spending of a single Dutch hospital accounts for only a fraction of the total revenue of these healthcare giants, which puts them in a vulnerable position.

In the period 2009-2017, the European competition authorities have started over 150 investigations in possible infringements of competition law in the pharmaceutical sector, of which 29 have led to taking an intervention decision (European Commission, 2019). Additionally, they have taken decisions in 17 cases involving medical devices, and 23 in cases related to other healthcare matters (European Commission, 2019).

In the Netherlands, the Dutch competition authority (ACM) has also identified two sectors related to healthcare that could be vulnerable to ACPs. First, the market for medical devices, especially those that are high-tech and require significant capital investment are at increased risk of ACPs (Heida et al., 2022). A study by Fountoukidis et al. also signals that there may be a dominant market actor in the pacemaker industry (2023). Second, the market for integrated IT systems for hospitals in the Netherlands is characterized by one dominant and several smaller firms, and could also be at risk for abusive behaviour (Autoriteit Consument & Markt, 2021).

[1] The total expenditure on hospital care in 2019 amounted to 24 billion euros of which 8,3 billion can be attributed to academic hospitals (CBS, 2023). The purchasing volume of academic hospitals in 2019 is 2,8 billion euros, about a third of total expenditure (Ministerie van Economische Zaken en Klimaat, 2021). Assuming this ratio is similar for private hospitals leads to a third of the total expenditure of 24 billion, which makes 8 billion in purchasing spending.

The attention competition authorities are paying to markets directly involved in supplying hospitals, could be an indication that hospitals often encounter ACPs. Moreover, competition authorities are constrained by the resources needed to investigate antitrust cases, and therefore need to prioritise cases that are deemed most harmful, so there may be more instances of ACPs than is publicly known (European Commission, 2014). Since this primarily involves supply relationships between organisations, hospital purchasers could be the first line of defence against suppliers engaging in ACPs. The following section discusses the role purchasers can have in countering ACPs and introduces the research questions of this paper.

1.2 Anti-competitive practices and purchasing

Caldwell et al. (2005) has argued that promoting healthy competition in the market should be one of the goals of public procurement. The section above has illustrated that there could be many instances of ACPs in hospital supply markets. Enforcing competition law is seen as a public affair in most jurisdictions, mainly through national competition authorities, while private enforcement (for example through litigation) is less common (Gerber, 2018).

A few studies have already investigated how organisations that are not competition authorities can counter anti-competitiveness. In the hospital sector, one example is the consolidation of purchasing power in Group Purchasing Organisations (GPO) (Blair & Durrance, 2014; Huff-Rousselle, 2012), which uses Galbraith's (1952) theory of countervailing power to balance the power of dominant suppliers.

This paper further explores the ways in which purchasers are dealing with suppliers that engage in ACPs, by considering the construct of power and the Resource Dependence Theory (RDT). Power in organisations can be seen as the function of the dependency of one organisation on the other (Pfeffer & Salancik, 1978). The RDT is used as a framework to analyse the dependencies of hospitals on the resources of their suppliers and the actions taken by suppliers/purchasers to increase/decrease the dependence of the hospital (Pfeffer & Salancik, 1978).

To the knowledge of the author, anti-competitive practices in hospital procurement have not been investigated by scholars up to this moment. Therefore, this thesis has been built on the, also limited, research on purchasing as a weaker party in a buyer-supplier relationship (See for example: Habib et al., 2015; Pazirandeh & Norrman, 2014). Purchasers can have an important role in countering ACPs, and also positively influence competition in the market

(Caldwell et al., 2005; Heimler, 2012). To investigate the novel perspective of ACPs from a purchasing perspective, the following research questions are addressed:

RQ1: "Are hospital buyers aware of anti-competitive practices?"
RQ2: "What types of anti-competitive practices are hospital buyers experiencing and how often do they occur?"
RQ3: "How do hospital buyers react when confronted with anti-competitive practices?"

To answer these questions, interviews have been conducted with purchasing professionals working for hospitals in the Netherlands. The Critical Incident Technique (Flanagan, 1954) was used to gather data on a variety of incidents of ACPs from each participant and get an in-depth assessment of the situation and how it was handled by the participant.

The remainder of this thesis is structured as follows. In the next section, the literature regarding ACPs and the relation with purchasing is discussed. Then, the methodology of the research is described. In the sections thereafter, the findings are presented and discussed, and conclusions are drawn.

2 Literature review

2.1 Competition legal framework

In the European Union, anti-competitive practices are governed by articles 101 and 102 of the Treaty on the Functioning of the European Union (TFEU) (*Consolidated Version of the Treaty on the Functioning of the European Union*, 2012). The enforcement of these articles is the responsibility of the Directorate-General for Competition (DG Comp) and the individual member states' national competition authorities (Gual & Mas, 2011). ACPs can be broadly defined as follows:

"[Anti-competitive practices] [r]efers to a wide range of business practices in which a firm or group of firms may engage in order to restrict inter-firm competition to maintain or increase their relative market position and profits without necessarily providing goods and services at a lower cost or of higher quality." (OECD, 1993, p. 12)

The core of this definition is that companies are increasing their market power without increasing their performance, which would be how firms should acquire market share under normal competition.

ACPs are separated in two categories. First, article 101 prohibits agreements between firms that negatively influence market competition (e.g. collusion, cartelisation). Second,

article 102 prohibits a firm with considerable market power to abuse its dominant position (Whish & Bailey, 2016). Within abuse of dominance, a distinction can be made between exploitative and exclusionary abuse. First, exploitative abuse are means of capitalizing on a position of dominance, for example by reducing output to raise prices above a level not sustainable under healthy competition. Exclusionary abuse are practices aimed at hindering (potential) competition (Whish & Bailey, 2016). An overview of anti-competitive practices based on Whish and Bailey (2016) and the OECD (1993) can be found in Text Box 1. In this overview, a distinction is made between pricing and non-pricing abuse of dominance practices, the effect of which can be either exclusionary, exploitative or both.

In a study on all 538 formal antitrust decisions by the DG Comp in Europe for the period from 1964 to 2004, Carree et al. have found that horizontal agreements (between rivals in the same market) constitute the largest share of cases in the EU, ranging from 37 to 47 percent depending on the period, followed by vertical restraints, ranging from 20 to 28 percent (agreements between parties at different levels of the supply chain). At the end of the period under investigation, they found an increase in the number of cases involving abuse of dominance, from 6% to 12% of all total cases (2010). Gual & Mas confirm that horizontal agreements constitute the largest portion of decisions against firms. They also note that the European Commission is more likely to decide against firms in highly concentrated industries and industries with high demand growth (2011).

The reason for prosecuting ACPs can vary as competition law can have a multitude of goals. In the United States, there is a singular focus on efficiency and consumer welfare (Bradford et al., 2019; Leslie, 1993). In the European Union, the law has been applied to achieve a broader set of goals, such as welfare, efficiency, a competitive market structure, economic freedom, fairness, European integration, and the competitive process (Stylianou & Iacovides, 2022). More recently, objectives such as environmental protection, sustainability and privacy have also made appearances in decisional texts (Stylianou & Iacovides, 2022). In general, competitive markets are associated with higher productivity growth, and increased innovation efforts (Ahn, 2002; Nickell, 1996).

Text Box 1: Overview of anti-competitive practices
Source: OECD (1991), Whish & Bailey (2016)

Anti-competitive practices

Cartels

Price fixing: Agreement to fix prices at a higher level than it would be under competitive conditions.

Market sharing: Agreement to divide market segments based on geographical areas or particular customer segments. Parties agree not to compete in their rival's segment.

Production restrictions: Parties limit their output to artificially drive up prices. Such as the OPEC oil cartel.

Collusive tendering: Firms agree to divide large tendered contracts among themselves. For example, the parties can agree that the firm that should win the contract puts in a better bid than the other parties, but still at a higher price than when all firms would compete for the contract. This can be repeated for other contracts with a different winner.

Agreements relating to terms and conditions: Parties can agree not to compete with terms and conditions, such as not offering credit or discounts to customers.

Exchange of information: Parties can exchange commercially sensitive information, for example on their prices for the coming period.

Advertising restrictions: Restrictions on advertising can range from certain aspects of the product to agreeing not to advertise in certain geographical areas.

Anti-competitive horizontal restraints: To maintain the supra-competitive profits, the cartel has to deter non-cartel firms from entering the market and take market share. The cartel can engage in exclusionary practices, such as exclusive dealing agreements with downstream customers.

Vertical agreements: agreements between parties at different levels in the supply chain (e.g. producer and retailer) which limit competition. Such as exclusive dealing contracts.

Tacit collusion: Oligopolistic firms can coordinate their actions as if they were in a cartel without having an explicit agreement by monitoring and adjusting their behaviour according to the rival's actions.

Abuse of dominance

Non-pricing practices:

Exclusive dealing agreements: Dominant firm obliges suppliers and or customers to sell to/buy only from itself, restricting access to competitors.

Tying: Dominant firm ties related products to the sale of the product the firm has dominance in, requiring purchasers to buy the tied product together with the tying product

Refusal to supply: Dominant party refuses to supply essential input to downstream customers of which it has control, often favouring its own presence in the downstream market.

Refusal to license: Similar to refusal to supply, but in this case the dominant firm possesses an essential piece of intellectual property and refuses to grant access to competing downstream firms.

Non-price predation: raising the competitors costs. For example, by using legal processes to force the competitor to spend a significant amount on litigation costs.

Pricing practices:

Exploitative pricing: Firm charges prices that would not be sustainable would there be healthy competition.

Exclusionary rebates: Offering loyalty rebates to customers, which gives them incentives not to switch to competitors.

Bundling: Offering better prices for required goods when bought together with other goods.

Predatory pricing: A dominant firm reduces its prices to a loss-making level that cannot be sustained by its competitors. After competitors have left the market, the firm increases its prices to supra-competitive levels to recuperate the lost profits.

Margin squeezing: Dominant upstream firm raises prices of essential output to squeeze the margin of downstream competitors. If the dominant firm has a downstream subsidiary, their whole turnover remains equal, while it becomes harder for independent downstream rivals to compete.

Price discrimination: Charging different prices in similar situations putting rival downstream parties at a competitive disadvantage. This could also be an exploitative practice, when higher prices are asked of customers that are locked-in.

Dumping: Selling products abroad at below costs or below home prices. Can be either or a combination of predatory pricing and price discrimination.

2.2 Structure-Conduct-Performance paradigm versus Efficiency hypothesis

While high market concentration is correlated with above-normal profits, economists have long been debating the cause (Clarke et al., 1984) . The structure-conduct-performance paradigm stipulates that market structure (e.g. number of competitors, concentration, barriers to entry) influences the conduct of firms, which has an effect on the firm's performance (McWilliams, 1993). In the context of antitrust, the main point of this theory is that

concentration in the market, along with high barriers to entry, facilitates monopolistic pricing and collusion, thus increasing the performance of firms in this market (Weiss, 1979). Gual and Mas (2011) have also observed that high concentration is one of the primary predictors of anti-competitive behaviour.

On the other hand, it has been argued that high concentration in the market is the result of superior performance of the larger firm(s) and interventions aimed at reducing concentration may have a negative effect on the overall efficiency of the market (Demsetz, 1973). Efficiency considerations play a big role in antitrust enforcement in the United States (Bradford et al., 2019). On the other hand, the European Union is more heavily tilted towards prosecuting anti-competitive effects, with less regard for efficiency justifications (Friederiszick & Gratz, 2015).

2.3 Promoting competition through purchasing

Caldwell et al. (2005), has argued that the promotion of competition in the market should also be one of the goals of public procurement. A study using data on 256 construction work tenders in the Czech Republic has concluded that there is a significant negative relationship between the number of bids on a tender and the price of the contract (Hanák & Muchová, 2015). There may also be significant increases in transaction costs of contracting within an uncompetitive market, as managers expend more resources in managing contracts with sole suppliers, or in attracting and retaining vendors (Girth et al., 2012; Johnston & Girth, 2012). If market competition is not included in the supply strategy, the decisions of many local authorities may have a negative effect on market competition in the sector overall, such as a market with few powerful suppliers, or many small suppliers (Walker et al., 2006). In the remainder of this section, strategies aimed at promoting competition are discussed.

One sector which has been widely studied in the context of this subject, is the tendering of the London bus services. It has been successful in promoting and maintaining competition (Amaral et al., 2009).The remainder of this paragraph discusses the studies which investigated the factors of success in the London bus market. Iossa et al. (2022) find that a consideration of the market structure should play an important role in determining the timing of tenders. They conclude that similar contracts awarded at the same time can increase the competitive pressure of potential entrants when incumbency advantages are greater and monopolisation is expected. In contrast, staggered tendering (contracts awarded in alternating time periods) is preferred when incumbency advantages are lower, and increases the competitive pressure of firms already active in the market (Iossa et al., 2022). In another study on the London bus market, Iossa and Waterson (2019) have identified the unbundling of larger contracts and a

high frequency of tendering as factors for encouraging competition among potential service providers. Additionally, greater transparency about the expected operating costs can reduce the incumbent provider's information advantage (Iossa & Waterson, 2019). More information on expected costs helps potential entrants to bid more realistically, where they otherwise may be too aggressive, which could lead to them exiting the market after incurring greater costs than they expected (De Silva et al., 2009). While the example of bus service tendering may not be directly transferable to the healthcare sector, it shows how careful consideration of market structure by purchasers can positively influence competition in the market.

Public procurement agencies can also play an important role in preventing and detecting bid-rigging cartels. Purchasers have extensive information on current and historical bids, so they can aid in detecting cartels (Heimler, 2012). However, competition law enforcement is not their primary purpose, and raising suspicions about possible bid-rigging schemes could delay the procurement process, so they have no incentive to do so (Heimler, 2012). In Italy, a procurement body was instrumental in detecting and prosecuting a bid-rigging scheme by the "Big Four" audit and consultancy firms, i.e. KPMG, EY, PwC, and Deloitte. (Albano & Santocchia, 2022). The importance of collaboration between purchasers and the competition authorities has also been recognised by the European Commission and the OECD (European Commission, 2021; OECD, 2009).

2.4 Purchasing in a supplier-dominated relationship

Power can be defined as the ability to influence the behaviour of another party and can be seen as a function of the dependence of one party on the other. Such a power relationship can be balanced or asymmetrical, the latter being a situation where one party holds more power over the other party than vice versa. There can also be differing degrees of mutual dependence in situations where parties hold power over each other (Emerson, 1962).

Built on this concept of power, is the Resource Dependence Theory (RDT) (Pfeffer & Salancik, 1978). The RDT stipulates that power in inter-organisational relationships rises from the dependence of one organisation on the resources another can provide (Pfeffer & Salancik, 1978). In exchange relationships, firms also share a degree of mutual dependence (Caniëls & Gelderman, 2005). In purchasing literature, researchers have focused on relationships in which the buyer is the dominant party and how they can employ this power to their benefit (Pazirandeh, 2017). As the weaker party in a relationship, organisations can respond to situations of power constraints by adaptation or by attempting to change the power position (Pazirandeh & Norrman, 2014; Pfeffer & Salancik, 2003). In a multiple case study on five

developing countries and one humanitarian organisation operating in the market for vaccines, Pazirandeh and Norrman (2014) have identified safeguarding as an additional response to a power disadvantage. For example, an organisation can attempt to safeguard against the negative consequences of a weak power position by investing in long-term relationships and trust, more detailed contracts, or sourcing from multiple suppliers (Pazirandeh & Norrman, 2014).

To operationalize the power position of a purchasing organisation, the Kraljic matrix is a much used instrument in practice, which exists of four quadrants of purchasing categories, namely non-critical, leverage, bottleneck, and strategic items (Kraljic, 1983). In the bottleneck and strategic purchasing categories, suppliers tend to be dominant in the relationship (Caniëls & Gelderman, 2005). Gelderman & Van Weele (2003) have identified strategies for either holding the position, or moving to another quadrant. To move to another quadrant, an organisation can attempt to decrease their dependency on the supplier by searching for alternative suppliers, or by looking for alternative products. To hold the position, the firm can accept that it is dependent on the supplier and engage in practices to mitigate supply risks, such as long-term contracts and excess stock-keeping. The second strategy generally occurs when there are few alternatives available and the firm is obligated to deal with the supplier. Additionally, an organisation can also maintain a strategic partnership (Gelderman & Van Weele, 2003).

In an extensive literature review, Habib et al. (2015) have identified five strategic responses available to a weaker party in a buyer-supplier relationship. The weaker party can collaborate to increase its importance to the stronger actor; it can accept the dependence on the supplier by compromising; it can diversify its supply base; they can form a coalition to increase their power position; as a last resort, they can exit the relationship (Habib et al., 2015).

Bastl et al. (2013) has suggested that the weaker party in a buyer-supplier relationship can change the imbalance of power by forming coalitions with other weaker parties who have a relationship with the dominant party. For a firm with little purchasing power, this would mean combining its power with another weaker purchasing firm. In order to be successful, the collective power of the coalition should be greater than the power of the dominant party (Bastl et al., 2013). Collaborative procurement and the pooling of demand could help to improve a buying organisation's leverage (Huff-Rousselle, 2012). For example, a joint procurement initiative for pacemakers in the Netherlands has resulted in an average decrease in prices of 22% for Dutch hospitals (Carrera et al., 2021).

3 Methodology

3.1 Research strategy

Not much prior research has been done on anti-competitive practices from the perspective of the purchasers confronted with it. Therefore, this thesis has taken an exploratory approach to investigate the way in which purchasers respond to such practices. Determining which cases constitute anti-competitive practices is a complex legal process (Schinkel & Tuinstra, 2006), and out of the scope of this research. Thus, the perception of respondents should be central to the investigation.

To capture the respondent's perspective, data has been collected using the Critical Incident Technique (CIT), first described by Flanagan (1954). The "CIT is used to investigate significant occurrences (events, incidents, processes, or issues) identified by respondents, the way they are managed and the perceived effects" (Gelderman et al., 2016, p. 217). In the context of this study, a critical incident represents an occurrence of a specific anti-competitive practice identified by the respondent. The CIT "provides a rich source of data by allowing respondents to determine which incidents are the most relevant to them for the phenomenon being investigated" (Gremler, 2004, p. 67). Additionally, this method captures the subjective experience of respondents by encouraging them to describe the events in great detail, which supports the exploratory nature of this study (Bott & Tourish, 2016; Chell & Pittaway, 1998).

3.2 Data collection

3.2.1 Interview design

The main part of the interview was designed using the CIT. During a semi-structured interview, interviewees were asked to identify three to five cases (incidents), in which they were confronted with a supplier engaging in anti-competitive behaviour. For each incident, the questions were designed to get a detailed description of the behaviour of the supplier, the actions taken by the respondent, and the results of those actions. These questions were iterated over for each of the cases identified by respondents. Due to the diversity of cases and the differing levels of detail in responses, the interviewer had to actively adjust the manner of interviewing with each participant to extract the relevant data on each case. This caused the interviews to become gradually less structured throughout the data collection stage.

For the starting three interviews, a second section of the interview was included which was designed to collect data on general measures taken by the interviewee to prevent ACP's and whether they were actively promoting competition in the market. However, after these first interviews, the decision was made to exclude this section from further interviews. The

discussion on general measures did not yield enough relevant data for answering the research questions, while including this part required allotting valuable time in the interview planning. Therefore, freeing up this time allowed for a more complete discussion of the critical incidents, which seemed more in line with the goals of the project. The final version of the interview guide can be found in Appendix A.

Prior to the interview, participants were asked to select the events they think were most relevant to them. Preparation helps participants with recollection and saves time during the interview that would otherwise have to be spent selecting cases (Schluter et al., 2008). Additionally, the overview of anti-competitive practices in Text Box 1 was shared with participants before the interview. This helped participants with preparing for the interview and established a common understanding between the participant and the interviewer.

During the nine interviews conducted, 31 cases have been discussed. Flanagan (1954) has argued that 50-100 incidents could be satisfactory for investigating relatively simple phenomena, so 31 cases seems to be on the low side. However, the cases discussed in the later stage shared a large degree of similarity with those discussed before, so there seems to be some degree of saturation in the data (Flanagan, 1954).

3.2.2 Participant sampling

The participants have been recruited in public and private hospitals in the Netherlands. Additionally, since hospitals are often members of purchasing consortia, these cooperatives have also been approached. To be included, participants had to be active in the purchasing department of a hospital, or a consortium servicing hospitals, and personally involved in situations where anti-competitive practices occurred. Nine purchasers and purchasing managers have been found who were willing to give an interview. Participants worked for different types of organisations. In the Netherlands, there is a distinction between academic hospitals and private hospitals, where academic hospitals are required to follow public procurement procedures, while this is not the case for private hospitals. Within the private sector, some hospitals are called top clinical hospitals. These tend to be larger in size than regional hospitals and offer more complex care. Additionally, some participants work for purchasing cooperatives. The profile of the respondents can be found in Table 1 below.

3.3 Data analysis

The data were analysed by conducting a thematic analysis (TA), which "is a method for identifying, analysing and reporting patterns (themes) within data. It minimally organizes

and describes your data set in (rich) detail" (Braun & Clarke, 2006). First, the data has been coded in a manner which stays close to the words of the participants. Second, common themes were identified in a second round of coding (Braun & Clarke, 2012). This method of analysis has enabled the identification of patterns between critical incidents, while staying close to the specificities of the case. Additionally, each case was summarised in a vignette, which included the practices described by the participants, and the countermeasures employed (Miles & Huberman, 1994). Yin describes the process of analysing qualitative data as compiling, disassembling, reassembling, interpreting and concluding (2011).

Respondent	Function	Purchasing area	Organisation type
1	Purchaser	Medical devices	Top clinical hospital
2	Purchaser	Medical devices	Academic hospital
3	Purchasing manager	IT/Medical	Regional hospital
4	Purchaser	Medical devices	Top clinical hospital
5	Purchaser	Medical devices	Purchasing cooperative
6	Purchasing manager	Medical/Facility	Purchasing cooperative
7	Purchaser	IT/Medical devices	Regional hospital
8	Purchaser	Pharmaceutical	Purchasing cooperative
9	Purchasing manager	IT/Medical devices	Regional hospital

Table 1. Respondent profiles

3.4 Ethical considerations

The research project covers the responses of buyers to potentially illegal conduct by suppliers. Because the aim of this research is not to establish whether suppliers are acting in accordance with the law, only inquiries regarding the perception of purchasers have been made. Furthermore, due to the sensitive nature of the discussion supplier behaviour, respondents have been given a pseudonym and all supplier names have been removed from the transcripts. The pseudonymised transcripts are stored according to guidelines from the university to ensure adequate protection. All recordings were destroyed after transcription. Furthermore, transcripts do not contain any information related to the interviewees or their organisations.

In addition, the research project has been approved by the ethical committee of the University of Twente to ensure that it complies with the ethical standards set by the university.

4 Findings

In this chapter, the main results of the interviews and analysis are presented. First, the analysis of practices described by interviewees is discussed. Second, the countermeasures employed and the problems they address are described. The encountered practices and countermeasures have been separated, because respondents have used different solutions to similar problems, and some of the countermeasures can be employed to address multiple problems. An overview of practices can be found in Table 2. The cases can be divided into two categories, namely abuse of dominance cases, and cartelisation/collusion.

4.1 Abuse of dominance cases

The most common type of cases are instances of abuse of dominance. These generally involved ways of increasing the dependency of the hospital on the dominant supplier. The most discussed examples of these are tying products and services to a medical device, and aggressive marketing towards medical personnel. Practices which have been mentioned by multiple respondents are discussed by combining the different problems/barriers described by respondents. Practices which have been described by one respondent are discussed individually.

4.1.1 Tying products and services to a medical device.

In seven cases, suppliers tied the delivery of a medical device to their own products and services. This strategy was employed in many sectors, ranging from capital-intensive medical imaging devices to high volume implants. First, the different tactics to tie these products are discussed. Second, the problems this can cause for the hospital. Then, the barriers purchasers encounter to overcome these problems.

First, suppliers who manufacture devices which require disposable products to operate, often require the hospital to use disposables produced by the original equipment manufacturer (OEM). When the hospital would use a substitute disposable, the supplier withdraws any quality warranties and will not accept liability claims. In some cases, the OEM has developed connectors which are incompatible with substitute disposables, making it physically impossible to replace. A similar strategy is to require a hospital to have all maintenance and repair activities conducted by the OEM, also in combination with withdrawing warranty and liability claims if the hospital would conduct the repairs themselves, or contract a third party. One participant has also described a situation in which a supplier offered the device for free, but charged a premium for the disposable product, which could be compared to getting the printer for free, while paying double for ink cartridges. The problem mentioned most often in cases where hospitals were

Type	Practice	Sector	Description
Abuse of dominance (non-pricing practices)	Tying products and services to a medical device	Medical devices	Suppliers are requiring hospitals to purchase other products and services next to the primary device. This is usually in the form of disposables or service and maintenance. If a hospital does not comply, the supplier withdraws warranties and refuses to accept liability.
	Aggressive marketing towards medical staff	Medical devices	Suppliers are actively promoting their products to medical staff. This increases the difficulty for purchasers to switch to another supplier
	Increasing barriers to switching	Medical devices	The supplier made their products specific to hospitals, which increases the effort it takes to make comparisons with more standardised competitors
	Lock-in by network effect	IT	The supplier provides an interface between two levels of healthcare providers. To one of the levels, they provide their service for free, locking in the hospitals
	Lack of innovation and flexibility	IT	Hospitals switching to new systems are dependent on the innovation and implementation schedule of the suppliers.
	Exclusionary dealing agreements	Pharmaceuticals	A company has an exclusive contract with an injection service. This requires the hospital to contract that service, if it would prescribe the medicine
	Abusing patent law	Pharmaceuticals	Suppliers have a multitude of ways in which they can abusively increase the duration of their patents.
	Mergers & Acquisitions	Medical devices	Suppliers are buying up smaller competitors to increase their market power
Abuse of dominance (pricing practices)	Excessive pricing	IT, medical devices, pharmaceuticals	Most situations of abusive behaviour are accompanied by excessive prices
	Exclusionary rebates	Medical devices	Suppliers offer rebates if the hospital would transfer the purchasing volume of a smaller competitor to them
Collusive behaviour	Sharing commercially sensitive information	Medical devices	Suppliers shared information on purchasing volumes from the hospital with their competitors
	(tacit) collusion	Medical devices	The purchaser has suspicions that competitors are maintaining similar prices, which could be too high
	Market sharing	Facility services	Competitors refused to take on new customers. This locked down the market and made switching impossible.

Table 2. Overview of observed anti-competitive practices

dependent on the services and disposables is the lack of negotiation leverage purchasers have. Since hospitals often have high internal barriers of switching to a different device, which will be elaborated on the next paragraph, suppliers are in a position to abuse the dependency of the hospital.

When a supplier makes a proposal which is against the interest of the hospital, usually an increase in prices, purchasers find themselves *"with their back against the wall"* (respondents 2 & 4). A second problem for hospitals is the supply risk posed by having only one supplier for essential disposables.

One of the barriers to overcome this type of problem, are the high internal barriers to switching mentioned above. Generally, there are alternatives available in the market, but adopting an alternative poses several problems. First, some medical devices are capital-intensive and have a long operational and economic life-cycle, so replacing them is often not an option. Second, the devices are integrated in internal processes and staff are trained to work with these devices, so a substitute would require changing the processes and retraining the staff. Third, medical staff can have strong professional preferences towards products of certain suppliers, and they sometimes have a strong influence on the decision making process. Last, continuity of care is an important factor for hospitals, so they want to avoid risking a supply disruption by switching suppliers.

4.1.2 Aggressive marketing towards medical staff

Suppliers employ several strategies aimed at binding the medical staff to their products, thereby decreasing the possibilities of these are elaborated on in this section.

First, suppliers are actively pushing their products in educational institutes. They offer their products for free, so they can be used by the future medical professionals. In this way, the medical staff will be comfortable using one product brand, and will have a strong preference towards this brand. Since medical personnel have a strong say in which suppliers are to be contracted, there will be a bias towards the brand they prefer. This has been described as follows:

"*Then you run into the problem that the people who prescribe [the product] in the hospital, who have been trained with this particular brand, who have worked with [the product] for years and also receive a yearly training from that brand. They have been brainwashed towards this particular brand and have a certain distrust towards any other brand."* (Respondent 3)

Second, suppliers maintain close contact with physicians in hospitals. One participant notes that *"the relationship between supplier and physician is often more intensive than the relationship with the purchasing department."* (respondent 6)

Third, one respondent has described a situation in which a supplier provides financial funds to a department using their products. Without these extra funds, the department cannot perform all the procedures and would have to discontinue certain types of care.

The problem these supplier tactics causes for hospital buyers, is that it makes switching to different products/brands difficult. Purchasers have to put in extra effort to convince the medical staff of the benefits of switching to another supplier. Multiple respondents have made the comparison below when illustrating the difference between the one who pays and the one who decides:

"*If you are not the one who has to pay, and you get to decide whether you want to drive a BMW or a Volkswagen, which also complies to all European regulations […] If you are not the one who pays, you often make a different choice. Even if it would be better for everyone if you would choose the Volkswagen."* (respondent 3)

However, this situation is not applicable to all hospitals, since two respondents described a different structure for making contracting decision, which will be discussed in the section on solutions offered.

Another problem which has been mentioned is that the bias of medical staff increases the difficulty of making purchasing decisions according to objective criteria. This respondent describes that it is often not quite clear why a certain supplier has been contracted.

4.1.3 Increasing barriers to switching

Respondent 3 describes a situation in which the supplier employs a tactic which increases the barriers to switching. The supplier offers customer specific solutions for products which, according to the respondent, are probably similar between hospitals. However, the supplier assigns different part numbers to all parts, which do not correspond to any part numbers used in different hospitals. Competitors are unable to make comparisons between the individual part numbers and their own counterparts, because they do not recognise the part numbers.

In order to make a comparison, the hospital has to make an inventory of all the different products currently in use and categorise them, so a competitor can make the connection to their own products. This takes a significant amount of effort on the side of the purchaser, and increases the switching costs.

Additionally, the medical staff is used to having specific products for each use, such as products with different colours for each application, while competitors generally offer a more standardised package. In this case, the supplier also targets the medical staff with their marketing efforts, which increases the difficulties for the purchasing department in switching to different suppliers.

4.1.4 Lock-in by network effect

In this case, the supplier has developed an interface between two different levels of the healthcare system. It connects the hospital to physicians outside of the hospital. The company has gained market share by offering their service for free to the physicians outside the hospital, while the hospital has to pay for the service. This service is an essential tool for hospitals for sharing information with outside physicians, so the hospital cannot risk losing access to the service.

The respondent's hospital was an early adopter of this service, and while the company was becoming more dominant in the market, the prices more than doubled in a period of three years. Outside physicians have no motivation for overcoming this problem, since the system the company provides makes their work easier, and they are not confronted with the excessive prices. There have been alternative initiatives by companies who offered a similar service for a significantly lower price, but these have failed because of the lack of urgency for outside physicians.

4.1.5 Lack of innovation and flexibility

Suppliers in a dominant position have also shown a lack of innovative efforts, and adaptability to the needs of the hospitals. This was again primarily the case in the IT sector. Respondent 3 has described the lack of innovation of one supplier as still running on an obsolete platform. While they say that there is a need in hospitals for a modern platform, there have been no parties who were willing to invest in its development. Respondent 7 mentioned that their hospital requires customisations in the system, but the supplier is unwilling to make such adjustments. However, other purchasers have noted that the costs of offering customized solutions to each hospital would be too great, and it might be better if hospitals would adjust to the standard service offered by the supplier.

In another case, respondent 7 mentions the lack of flexibility when implementing a new system. The hospital is in the process of switching to another supplier, but they are

completely dependent on the implementation schedule of the supplier. However, they also mention that the supplier may have some capacity constraints which causes their lack of flexibility.

4.1.6 (ab)use of pharmaceutical patenting law to maintain monopoly

Respondent 8 was the only respondent who operated in the pharmaceutical market. These cases primarily involve the use of patenting law to gain or maintain monopolistic market power.

In the first case, the supplier of a patented pharmaceutical forced the hospital to make use of an injection service with which the supplier has an exclusive arrangement. Consequently, if the hospital has patients requiring this drug, they had to send them to this particular injection service. This also limits the purchaser's options of importing the drugs from other countries for their own use.

The remaining cases are ways in which suppliers exploit patent law to extend their exclusive access to a patent. In the first strategy, the supplier makes a small innovation in the way of administering the drug at the end of the patenting period. For this innovation, which usually also involves an increase in patient comfort, the supplier gets a new patent for a period of ten years. Despite the fact that the more uncomfortable way of administering will be out of patent, doctors prefer less invasive procedures.

In the second case, firms are incorporating a regularly used combination of drugs into one pill. This combination drug is used when the patent expires on one or multiple drugs within the combination. By combining the drugs with expired patents with another drug which is still protected, the supplier can charge higher prices than it could for each individual medicine.

Another example of abuse of patent law, is the patenting of orphan drugs which are already used off-label to treat rare conditions. When the supplier gains exclusivity on the treatment of rare diseases, it can increase prices to a great extent.

The last example mentioned by the respondent is effort put in getting a patent for a class of medicines in which the supplier is lacking behind. In this case, the leading firms are in the process of acquiring patents for the treatment of more common diseases. The firm that is lacking can invest in research on a less common disease, and can manage to secure the patent for this rare disease before the leading firms can.

4.1.7 Mergers & acquisitions

Another practice which increases the market power of suppliers, is by mergers & acquisitions. Respondent 2 has noticed that large suppliers are buying out many small suppliers or absorbing them into a cooperative. In some cases, they add the company to their own portfolio. This leads to a supplier with a broad portfolio of products, the entirety of which cannot be supplied by any competitors. Buying a broad portfolio from one supplier reduces transaction costs for the hospital, and switching suppliers would require contracting many smaller firms to get the entire product range. In other cases, the supplier just stops the production of the smaller firm, which plainly eliminates the competition.

However, the purchaser also notes that purchasing from these larger firms is often cheaper, both in prices and transaction costs. The main problem with this practice is the increase in dependency on the one supplier, which also increases the supply risk and limits alternative options.

According to the purchaser, there is not much which can be done to counter this practice. They do try to get a clear picture of the organisational structure of their suppliers, so they know whether they are dealing with an independent party or with a firm that is owned by another firm.

4.1.8 Excessive pricing

In all cases where there is an abusive supplier, the purchasers complained about the high costs they have to incur for acquiring the product. Interviewee 3 mentions that a firm providing hospitals with IT-services has profit margins of around 45%.

Purchasers find it difficult to deal with such suppliers, as they have little negotiation leverage. The hospital can either pay the price set by the supplier or stop using their products. Since the products are essential for the normal operation of a hospital they have no choice but to accept the conditions of the supplier. Another barrier is the high barriers to entry in the health sector. Especially for hospital IT-systems, purchasers describe the Dutch market as very demanding in rules and regulations and the investment it takes to develop a new system is too great for potential entrants. Additionally, there are high internal barriers to switching to a new supplier for IT-systems, which increases the difficulty for potential entrants to gain a viable customer base.

4.1.9 Exclusionary rebates

Respondent 1 describes a situation where a supplier would offer rebates if the hospital would reallocate the purchasing volume of a small competitor to the large supplier. This leads to a situation in which the large suppliers become more dominant until there are only a few large suppliers left in the market. Such a situation is deemed undesirable by the purchaser. However, since the hospital prioritizes cost reductions they generally opt for the large suppliers, in order to get the rebates, enabling the increased concentration of the market.

4.2 Collusive behaviour

4.2.1 Sharing of commercially sensitive information

Respondent 1 found out during a negotiation that their supplier knew the exact purchasing volume of the hospital with their competitors. For this product, there are four suppliers in the Netherlands. The hospital had contracted three of them to minimize their supply risk. During a negotiation, the supplier's representative mentioned that the four players in the market are exchanging information about the purchasing volumes of hospitals in the Netherlands.

The consequence of suppliers sharing information with each other is that they are gaining a significant informational advantage over the buyer which reduces the buyer's room to manoeuvre during negotiations.

4.2.2 (Tacit) collusion

Respondent 4 has suspicions on tacit collusion of suppliers. They describe a situation in which a sales representative knows exactly what the lowest prices of its competitors are. The purchaser found out that the competitors in the market all get their products from the same factory.

4.2.3 Market sharing

Respondent 6 describes a case of a facility service industry which is capital-intensive and has little over-capacity. When energy prices spiked during covid, all the competitors in the market raised their prices significantly and locked down the market. The firms in the market were no longer taking on new customers, so switching to another supplier was made impossible.

4.3 Countermeasures and solutions

In this section, the different solutions offered by respondents and which problems and barriers described above each solution would address are discussed. The overview of countermeasures can be found in Table 3.

4.3.1 Making the decision-making process more objective

Respondent 7 described the installation of a material advisory committee. This committee is charged with decisions regarding the products the hospital needs. The primary concerns of the committee are to ensure the quality of healthcare and the safety of patients and staff. In addition, the committee has to evaluate to what extent the hospital needs fully dedicated materials, or whether it can also use more general platforms with substitutable components. The committee consists of representatives of all stakeholders, such as the purchasing department and medical specialists.

A variant on the solution above is one offered by respondent 6. In their organisation, the purchasing department has a strong role in investigating and advising on material needs. If purchasing identifies alternatives which have clear financial benefits for the hospital, provided that the product is safe and also used by other Dutch hospitals, the advice given by purchasing is leading. A medical department has to have strong counter-arguments if it does not want to follow the advice of the purchasing department.

There are several problems such a way of organising the decision-making process can address. First of all, the influence of preferences of individual medical specialists in deciding on products/suppliers is reduced. Second, additional criteria are introduced for evaluating suppliers and their offers, such as substitutability and financial concerns.

4.3.2 Research and development of substitutable parts

Two respondents (1 and 2) have, in cases where suppliers limited the substitutability of their disposables, started researching alternative options.

In the case of respondent 1, a surgeon started collaborating with the local university to find out whether the supplier's claim of incompatibility was valid. However, this was still under consideration at the time of the interview, so the results of this solution were not yet known. Additionally, the purchaser described it as a personal project of an individual surgeon, so the hospital does not apply this solution in a structural manner. The purchaser does describe the use of intermediate adaptor pieces, which are used to connect components otherwise incompatible.

Respondent 2 describes that their hospital has a medical development department, so they are capable of developing their own adaptor pieces to make components compatible. However, developing adaptors takes resources, and may not be viable in all situations, especially when it involves disposable components which cannot be reused.

Respondent 4 has also mentioned the possibility of researching alternative options, but does not regard it as a viable option. In a situation where a supplier does not allow to use substitute components, they describe it as follows:

"I believe it is possible, if you research it thoroughly, to deviate from it. But this is not something you want to do as a hospital, because then you are operating in the area of commercial businesses. […] that is not our expertise."

When this solution is successfully implemented, it can reduce the dependency of the hospital on the OEM. If there are substitute parts available, it also reduces the risk of supply disruption and increases the negotiation leverage of the purchaser. However, it may not be applicable in many situations, due to the resource investment it takes, and the lack of development capabilities in hospitals.

4.3.3 Intensifying communication with medical staff.

Since the cooperation of the medical staff is important for switching successfully to a different supplier, purchasers have to manage this relationship. In this section the measures discussed by the respondent for managing this relationship are discussed.

Respondent 3 mentioned two cases where the medical staff has played an important role in the decision-making process. In one of the cases, they were not successful in convincing the medical staff of the importance of switching suppliers. In the second case, they had included the medical personnel from the beginning of the process. They had organised a meeting in which their current and alternative suppliers could present themselves and their products to the staff. This showed the staff that there are viable alternatives to the dominant supplier's products, which they had been using for most of their career. When the dominant supplier learned the hospital was looking for alternatives, they intensified their marketing efforts towards the medical personnel, and became increasingly abusive towards the purchasers. The purchasers stayed in close contact with the medical staff, and also showed how abusive the communication of the supplier towards them was. This helped in convincing the staff of the importance of switching to an alternative supplier.

Respondent 5 has also stressed the importance of internal marketing towards the medical staff. They have to convince the medical staff of the disadvantages of working with the

dominant party, such as poor delivery performance and excessive prices. However, they stress that it is quite difficult to convince people.

These respondents have shown the importance of including the medical personnel from an early stage to reduce the internal barriers for switching suppliers. This could also help countering some of the aggressive marketing efforts of suppliers towards the medical personnel.

4.3.4 Engaging the competition authorities

Respondent 3 indicated that they have been in contact with the ACM regarding the abusive behaviour of two of their suppliers. However, these investigations are still in process, so these actions have not yielded any significant results yet. Respondent 7 also describes that they have been contacted by a government institution regarding a dominant party in the market. They have provided the institution with the information requested, but they also say they had not heard of any actions against the supplier.

4.3.5 Group purchasing organisations

Most hospitals are part of some form of cooperative. These cooperatives are in varying degrees also responsible for the purchasing for the group. However, the success of purchasing cooperations in these instances seems to be limited. The suppliers involved already supply to most of the hospitals within the cooperation, so purchasing together would not lead to a significant change in volume for the supplier. Respondents have also noted that the combined purchasing volume of the cooperative is too small to significantly influence the behaviour of a multi-billion international corporation.

Respondent 2 describes they had some success with purchasing in a cooperative, and that they have been able to increase their leverage towards a dominant supplier. They attribute the success partly to their hospital being an academic hospital, which offers more niche healthcare and is generally larger in size and influence.

Additionally, coordination in sectors with contracts for multiple years is also a challenge. Respondent 3 describes that they tried to collaborate against a supplier with other hospitals in their region, but hospitals were in different stages in a 3-year cycle. Therefore, the sense of urgency for changing the situation differed among the hospitals.

4.3.6 Generating media attention

Respondent 3 mentioned that they collaborated with a documentary maker which made a documentary about the abusive behaviour of the firm. However, while it was damaging for the reputation of the supplier, it had not changed the situation.

4.3.7 Sharing information among buyers

The purchaser mentioned that there is little they can do about suppliers sharing commercially sensitive information with each other (in response to section 4.2.1), since they need the products of the supplier and they do not wish to jeopardise the contract. However, they did mention that it was a bi-directional phenomenon, since the hospital is part of a cooperative, and the buyer also shares information on prices with their counterpart of hospitals in the cooperative.

4.3.8 Breaking the cartel

To counter (tacit) collusion, the respondent states that the only way is offering an irresistible offer to one of the colluding parties. They say that if they can manage to get one of the suppliers to drop below the minimum price, the rest of the competitors often follow. However, one must be sure that prices are indeed higher than normal.

4.3.9 Developing alternative suppliers

In response to the market sharing case, the hospital is considering to attract a new supplier to the market. This facility market has similar suppliers servicing other sectors than healthcare, so it could be possible to use another supplier for the needs of the hospital. However, the respondent states that it is necessary for energy prices to normalize before they can successfully attract such a supplier, so the results are not yet known.

4.3.10 Influencing the prescription habits of doctors

The respondent works for a cooperative which has a large influence on the use of medicines in the Netherlands, so they are able to guide the market. For instance, in the case of an abusive supplier, where there are alternative ways of treating a condition, the cooperative instructs doctors to use an alternative medicine. This can have a negative impact on the successfulness of the supplier on the Dutch market, so they are able to exert some pressure on the supplier. Additionally, they share the relative costs of treatment options with healthcare

providers, so they also get an image of the price differential and can incorporate this in their treatment proposals.

4.3.11 Producing pharmaceuticals for internal use in hospital pharmacy

Another way to counter patent abuse, is by producing the medicine for their own use. Legally, a pharmacy is allowed to produce a patented drug for use by their own patients. For a few drugs, the hospitals have registered their own pharmacy as producer of the drug for their patients.

4.3.12 Acceptance of the situation

In cases where purchasers are dealing with one dominant supplier, there is generally a sense of lack of influence. Because of the dependency on the supplier, purchasers try to maintain a healthy relationship in order to have some influence on the outcomes. Respondent 7 describes it as follows:

"*Our negotiation position is very, very bad towards this supplier, so we have to use our relationship, play in on their emotions. […] In the end, we managed to get something out of the negotiation, but this was peanuts compared to when there would be competition."*

This quote illustrates the general disposition of purchasers towards suppliers in these situations. They have to work within the context which is given and try to make the best of it. Investing in the relationship improves cooperation with these suppliers, but has little effect on the prices and conditions being set by the supplier.

5 Discussion

This thesis has investigated the occurrence of anti-competitive practices in hospital supply sectors and explored which countermeasures are employed by purchasers confronted with ACPs. In the following section, the research questions are answered using the findings described before.

5.1 Prevalence of ACPs

During the interviews, 31 instances of ACPs have been identified over nine interviews. Specifically in the sectors for medical devices and hospital IT the practices encountered by respondents were varied and abundant, but also shared similarities. Respondents have also indicated that the parties engaged in such practices are usually the dominant market actor, or are operating in a market with at most five competitors. This suggests that ACPs are indeed a

Practice	Description	Aimed at
Making the decision process more objective	Developing a formal sourcing decision making process with sourcing criteria relevant to the hospital	Reducing the effect of aggressive marketing tactics by emphasising objective criteria, while reducing the influence of personal preferences of medical personnel
Research and development of substitutable parts	Hospitals with access to research and development resources can develop substitute products	Reducing the dependency on a dominant supplier by increasing the substitutability of products
Intensifying cooperation with medical staff	Involving medical personnel in decision making about sourcing decision	Cooperation between purchasing and internal customers can reduce the effect of aggressive marketing tactics, and reduce resistance towards trying alternative products
Engaging the competition authorities	Making a formal complaint about the behaviour of a dominant supplier with the competition authorities.	The enforcement power of competition authorities can stop and prevent dominant firms from engaging in ACPs
Group purchasing organisations	Collective purchasing of goods and services	By purchasing in a collective, hospitals can increase their leverage by pooling their demand.
Generating media attention	Making negative publicity about an abusive supplier to harm their reputation	Forcing the supplier to disengage from abusive behaviour by generating negative publicity
Sharing information among buyers	Sharing information such as prices with related hospitals.	Countering the sharing of commercially sensitive among suppliers by sharing among similar hospitals
Breaking a cartel	Attempting to offer one of the cartel members a tempting deal to break with the cartel	Getting one of the cartel members to drop below the prices set by the cartel
Developing alternative suppliers	Developing an alternative source of supply.	Increasing the amount of alternative suppliers on the market to increase purchasing leverage
Influencing prescription habits of doctors	Instructing doctors to use alternative medicines in the case of an abusive pharmaceutical company.	Using the influence of the collective on prescription habits of doctors as leverage towards abusive suppliers.
Producing pharmaceuticals for internal use	Patent law allows pharmacies to produce drugs for use for their own patients	Strategy to be used to increase alternative options to a monopolistic firm.
Accepting the situation	Acceptance of dependent position and operate within the context provided.	Safeguarding against abusive behaviour by investing in the relationship to increase reciprocity and increase trust between buyer-supplier

Table 3: Countermeasures to anti-competitive practices

problem for many hospitals in the Netherlands. It would be reasonable to assume that most hospitals are operating in the same supply markets and therefore are encountering the same types of behaviour as the respondents. However, it should be noted that in the recruitment stage, a small part of potential participants declined the invitation because they could not think of enough concrete examples of ACPs. Therefore, it could be the case that not all hospitals are experiencing these practices to the same extent. It could also be due to a different interpretation of what constitutes an anti-competitive practice, and perhaps they did not recognise it as such.

As Gual & Mas have observed, ACPs primarily occur in concentrated markets (2011). This has also been predicted by the structure-conduct-performance paradigm, which suggests companies in concentrated markets with high barriers to entry can make above-normal profits through monopolistic pricing (McWilliams, 1993). However, respondents have also noted the benefits of increased size of suppliers, such as lower production and transaction costs and the ability to make large investments in product innovations, so it is a trade-off between exploitation and efficiency.

5.2 Buyer's responses to ACPs.

The Resource Dependency Theory implies that in order to improve one's power position, the dependence on a supplier must be decreased (Pfeffer & Salancik, 1978). When applying this perspective to the results, actions by the supplier seem to be primarily aimed at increasing dependency of the hospital, whereas purchasers are attempting to offset this by decreasing their dependence.

For example, purchasing departments at hospitals are primarily concerned about the internal willingness to switch suppliers. In the purchasing of medical devices, a barrier mentioned by most participants is the influence of medical specialists on sourcing decisions. The difference between the one who pays (the purchasing department) and the one who decides (the medical staff) seems to be one of the primary factors limiting the options of purchasing in the sector. Second, the degree of embeddedness of the products in the daily operations of hospitals further increase the internal barriers to switching, thus decreasing the power position of the hospital.

The findings suggest purchasers employ multiple strategies to respond to power constraints. First, they attempt to change the level of power distribution by increasing the willingness to switching. The example of introducing a formal decision making process in which criteria relevant to the needs of the hospital are leading in sourcing decisions is an attempt to reduce the influence of the strong marketing pressures from suppliers. This practice can be

instrumental in opening possibilities for alternative suppliers and diversification of the supply base, which is a way of mitigating the lack of power held by the hospital, and lessen the dependence on one supplier (Gelderman & Van Weele, 2003; Habib et al., 2015; Pfeffer & Salancik, 1978).

Another interesting practice to change the power position of the hospital is by developing substitutes for internal use. This practice was observed for both medical devices and pharmaceutical products. While this could be very effective in mitigating supply risks and avoiding supplier dominance, the general applicability may be limited due to the significant resource requirements.

The limited success of group purchasing organisations is an interesting finding, since GPO's are a common mean in the hospital sector to increase purchasing leverage (Huff-Rousselle, 2012; Prakash Sethi, 2006; Walker et al., 2021). However, GPO's may be more successful in more competitive markets, in contrast to the highly concentrated sectors which have been discussed in this paper. In concentrated markets, it can be more difficult to form a coalition which has enough combined power to exceed the power of a dominant supplier, as is deemed necessary to be effective by coalition theory (Bastl et al., 2013).

However, next to the extensive list of countermeasures presented in the findings chapter, it must also be emphasized that respondents perceived themselves as powerless against suppliers. Specifically in markets where the alternatives are very limited or where switching costs are too high. In many situations, respondents expressed a degree of acceptance of their dependent position and took measures to safeguard against supply disruptions and abuse of power (Gelderman & Van Weele, 2003; Habib et al., 2015). Respondents attributed this powerlessness to the small size and degree of fragmentation of the Dutch healthcare sector. Each hospital is responsible for a small share of the total volume of demand, whereas suppliers can take up a significant portion of the Dutch supply market, which is still a limited portion of their total revenue. Additionally, hospitals are reluctant to externalise purchasing of the most specialised and capital intensive goods, which are also the most problematic sectors when considering ACP's.

6 Conclusions

6.1 Limitations

To conclude this thesis, some limitations of the study have to be noted. This study has investigated the types of anti-competitive practices suppliers engage in within the healthcare sector. The critical incident technique, identifying specific practices, was suitable for the initial

exploration of the experience of purchasers and the ACPs most significant to them. However, this method has limited the scope of the thesis to overt cases which were identifiable by the respondents. Furthermore, respondents had different interpretations of what constitutes an anti-competitive practice, where some respondents had a stricter definition while others included a broader set of practices.

Second, this study may also have some bias towards abuse of dominance cases, since these cases often directly involve the buyer-supplier relationship and are more visible to the purchasers. Cartelisation is more covert and can be kept hidden from buyers, so these could be more prevalent than shown in this study.

Third, the sampling strategy of the study has some limitations. In approaching hospitals, no distinction had been made between purchasers operating in different sectors. This has led to a diverse set of participants with cases in four sectors. While most cases were relevant for answering the research questions and were interesting for comparison, the data for sectors such as pharmaceuticals (1 respondent), are too thin to make inferences about such a complex sector. Therefore, focusing on a specific sector, such as medical devices, may have provided a more in-depth view of practices within that sector. On the other hand, recruitment of participants proved challenging, so getting additional insights from multiple sectors was also quite valuable.

6.2 Practical implications

Hospital purchasers of medical devices, IT, and pharmaceuticals are operating in an environment where supply markets are highly concentrated, whereas the demand side is fragmented. This leads to a situation in which suppliers are dominant actors who are able to abuse their position by engaging in anti-competitive behaviour. This study has presented evidence on 31 instances of anti-competitive practices gathered from nine interviewees active in four sectors (medical devices, IT, pharmaceuticals, and facility services). The abundance of cases described by the participants of this study indicate that purchasers are aware of suppliers engaging in anti-competitive practices (RQ1).

The practices experienced most often are aimed at increasing the dependency of the hospital on the supplier. For example, capital intensive goods are accompanied by the obligation to purchase complementary products and services, such as disposable goods, maintenance services, or instruments. Additionally, purchasing influence on sourcing decisions tends to be limited by strong ties between physicians and suppliers of medical products, where the physician is often a decisive factor in which products are to be purchased. Suppliers invest heavily in binding medical personnel to their products (RQ2).

Respondents had a variety of ways to deal with anti-competitive behaviour, although the effect of the actions was often limited. The strong grip of suppliers on hospital procurement can be partially mitigated by changing the decision making process. For example, installing a sourcing committee which consists of the relevant stakeholders and is bound by objective criteria for sourcing decisions can reduce the effect of heavy marketing. Alternatively, purchasers can involve medical personnel early in the purchasing process to increase their openness towards alternative suppliers (RQ3).

This thesis has shown there is a plethora of actions which can be taken by purchasers to counter anti-competitive behaviour. When considering these options, a purchaser should carefully evaluate which factors are the primary sources of dependency. Actions aimed at reducing the dependency on a supplier can positively change the power position of hospitals and reduce their vulnerability to anti-competitive practices (Pfeffer & Salancik, 2003)

However, the prevailing feeling among purchasers on dealing with powerful suppliers is a sense of acceptance of the situation. Given the situation, purchasers are attempting to safeguard against abusive behaviour by investing in relationship management and increase the supplier's willingness to cooperate with the hospital (Pazirandeh & Norrman, 2014).

6.3 Implications for policy

Heimler (2012) argued that purchasers can help competition authorities in detecting and preventing anti-competitive practices (Heimler, 2012). However, as two respondents who have been engaged with the Dutch competition authority have noted, they received limited feedback on the progress and results of the investigations. Intensifying the cooperation between authorities and practitioners could encourage free exchange of information. The authorities would receive more insight on the behaviour of the firms under investigation, while practitioners could be more inclined to engage with the authorities when they get feedback on how it affects the problems they are experiencing. It must be noted that this may not be entirely possible, while there may be restrictions on the information which can be shared by the authorities during an active investigation.

One of the primary factors which makes Dutch hospitals vulnerable to anti-competitive practices, is the fragmentation of the sector. While there are some initiatives to reduce this fragmentation, such as purchasing consortia, these often do not have enough market power to counter the behaviour of dominant actors. Additionally, coordination between hospitals within such a cooperative on the most essential products has proved to be difficult. While it may be difficult to achieve, having a national purchasing body for the most problematic products could

increase the power position of the Dutch health sector vis a vis the large multinational suppliers. However, the division between public and private hospitals in the Netherlands has created a specific situation where it may be difficult to unify the interests of all hospitals in a coherent national purchasing strategy.

6.4 Theoretical contributions and future research

Anti-competitive practices have gotten a lot of attention from policy makers and competition authorities (OECD, 2022). Only to a small extent has the role of purchasing in countering anti-competitive behaviour been recognised (Heimler, 2012). This thesis contributes to academic literature by examining anti-competitive behaviour in a purchasing context. ACP's were taken out of the realm of economic and legal discussion and were investigated from the standpoint of the practitioners who have to deal with them.

Additionally, it has expanded on the limited literature regarding less-powerful buyers. While there are some studies considering the perspective of a weak buyer (Bastl et al., 2013; Pazirandeh & Norrman, 2014), most of the purchasing literature is aimed at how powerful buyers can effectively utilise their stronger position (For example: Pulles et al., 2014). The practical approach of the study has provided an insight in the specific actions taken by professionals to respond to situations where they are the weaker party.

While this research has centred around actions taken to counter anti-competitive practices, future research could further investigate the power constraints experienced by purchasers in healthcare. Many interviewees recognised that the greatest factors of dependency were internal issues, such as the embeddedness of products in operational processes or the long-term nature of capital intensive devices. While this study briefly touched on the way purchasers are dealing with power constraints, it would be interesting to broaden this scope in a future study.

Furthermore, quantitatively analysing the degree to which hospitals are experiencing anti-competitive practices and identifying the factors (hospital characteristics/policies) which increase their vulnerability to ACPs could provide more insight in how hospitals can prevent and respond in such situations.

7 References

Ahn, S. (2002). Competition, Innovation and Productivity Growth: A Review of Theory and Evidence. *OECD Document Number ECO/WKP(2002)3*, 1–77.

Albano, G. L., & Santocchia, M. G. (2022). A case study on bid rigging in centralized procurement of audit consulting services in Italy. *Journal of Public Procurement*, *22*(2), 145–163. https://doi.org/10.1108/JOPP-08-2021-0050

Amaral, M., Saussier, S., & Yvrande-Billon, A. (2009). Auction procedures and competition in public services: The case of urban public transport in France and London. *Utilities Policy*, *17*(2), 166–175. https://doi.org/10.1016/j.jup.2008.07.006

Autoriteit Consument & Markt. (2021). *ZIS/EPD-systemen: marktproblemen en oplossingsrichtingen*. [Hospital IT/Electronic Patient Records-systems: Market issues and possible solutions]

Bastl, M., Johnson, M., & Choi, T. Y. (2013). Who's Seeking Whom? Coalition Behavior of a Weaker Player in Buyer-Supplier Relationships. *Journal of Supply Chain Management*, *49*(1), 8–28. https://doi.org/10.1111/j.1745-493x.2012.03274.x

Blair, R. D., & Durrance, C. P. (2014). Group purchasing organizations, monopsony, and antitrust policy. *Managerial and Decision Economics*, *35*(7), 433–443. https://doi.org/10.1002/mde.2633

Bott, G., & Tourish, D. (2016). The critical incident technique reappraised: Using critical incidents to illuminate organizational practices and build theory. *Qualitative Research in Organizations and Management: An International Journal*, *11*(4), 276–300. https://doi.org/10.1108/QROM-01-2016-1351

Bradford, A., Chilton, A., Linos, K., & Weaver, A. (2019). The Global Dominance of European Competition Law Over American Antitrust Law. *Journal of Empirical Legal Studies*, *16*(4), 731–766. https://doi.org/10.1111/jels.12239

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1057/978-1-137-35913-1

Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper (Ed.), *APA Handbook of Research Methods in Psychology: Vol. 2. Research Designs* (pp. 57–71). https://doi.org/10.1037/13620-004

Caldwell, N., Walker, H., Harland, C., Knight, L., Zheng, J., & Wakeley, T. (2005). Promoting competitive markets: The role of public procurement. *Journal of Purchasing and Supply Management*, *11*(5–6), 242–251. https://doi.org/10.1016/j.pursup.2005.12.002

Caniëls, M. C. J., & Gelderman, C. J. (2005). Purchasing strategies in the Kraljic matrix - A

power and dependence perspective. *Journal of Purchasing and Supply Management*, *11*(2–3), 141–155. https://doi.org/10.1016/j.pursup.2005.10.004

Carree, M., Günster, A., & Schinkel, M. P. (2010). European antitrust policy 1957-2004: An analysis of commission decisions. *Review of Industrial Organization*, *36*(2), 97–131. https://doi.org/10.1007/s11151-010-9237-9

Carrera, P., Katik, S., & Schotanus, F. (2021). Joint procurement of complex products: actual price savings, perceived nonmonetary advantages, disadvantages and impediments. *Journal of Public Procurement*, *21*(2), 167–182. https://doi.org/10.1108/JOPP-07-2020-0057

CBS. (2023). *Zorguitgaven; zorgaanbieders en financiering*. [Health expenditure; healthcare providers and financing] https://opendata.cbs.nl/statline/#/CBS/nl/dataset/84053NED/table?ts=1693380750166

Chell, E., & Pittaway, L. (1998). A study of entrepreneurship in the restaurant and café industry: Exploratory work using the critical incident technique as a methodology: Prize-winning Paper from the IAHMS Conference at Sheffield Hallam University, England, November 1997. *International Journal of Hospitality Management*, *17*(1), 23–32. https://doi.org/10.1016/s0278-4319(98)00006-1

Clarke, R., Davies, S., & Waterson, M. (1984). The Profitability-Concentration Relation: Market Power or Efficiency? *The Journal of Industrial Economics*, *32*(4), 435–450.

De Silva, D. G., Kosmopoulou, G., & Lamarche, C. (2009). The effect of information on the bidding and survival of entrants in procurement auctions. *Journal of Public Economics*, *93*(1–2), 56–72. https://doi.org/10.1016/j.jpubeco.2008.05.001

Demsetz, H. (1973). Industry Structure, Market Rivalry, and Public Policy. *The Journal of Law & Economics*, *16*(1), 1–9.

Emerson, R. M. (1962). Power-Dependence Relations. *American Sociological Review*, *27*(1), 31–41.

European Commission. (2014). *Ten Years of Antitrust Enforcement under Regulation 1/2003: Achievements and Future Perspectives*. 1–12.

European Commission. (2019). *Competition Enforcement in the Pharmaceutical Sector (2009-2017)*. https://doi.org/10.2763/218954

European Commission. (2021). *Notice on tools to fight collusion in public procurement and on guidance on how to apply the related exclusion ground*. https://ec.europa.eu/docsroom/documents/45004

Consolidated Version of the Treaty on the Functioning of the European Union, (2012)

(testimony of European Union).

Flanagan, J. C. (1954). Psychological bulletin. The critical incident technique. *Psychological Bulletin*, *51*(4), 257–272. http://www.ncbi.nlm.nih.gov/pubmed/19586159

Fountoukidis, I. G., Antoniou, I. E., & Varsakelis, N. C. (2023). Competitive conditions in the public procurement markets: an investigation with network analysis. *Journal of Industrial and Business Economics*. https://doi.org/10.1007/s40812-022-00251-z

Friederiszick, H. W., & Gratz, L. (2015). Hidden efficiencies: The relevance of business justifications in abuse of dominance cases. *Journal of Competition Law and Economics*, *11*(3), 671–700. https://doi.org/10.1093/joclec/nhv021

Galbraith, J. K. (1952). *American Capitalism: The Concept of Countervailing Power*. Houghton Mifflin.

Gelderman, C. J., Semeijn, J., & Plugge, N. (2016). The role of critical incidents in the development of global sourcing-results of an in-depth case study. *Journal of Purchasing and Supply Management*, *22*(3), 214–224. https://doi.org/10.1016/j.pursup.2016.05.003

Gelderman, C. J., & Van Weele, A. J. (2003). Handling measurement issues and strategic directions in Kraljic's purchasing portfolio model. *Journal of Purchasing and Supply Management*, *9*(5–6), 207–216. https://doi.org/10.1016/j.pursup.2003.07.001

Gerber, D. J. (2018). Competitive harm in global supply chains: Assessing current responses and identifying potential future responses. *Journal of Antitrust Enforcement*, *6*(1), 5–24. https://doi.org/10.1093/jaenfo/jnx015

Girth, A. M., Hefetz, A., Johnston, J. M., & Warner, M. E. (2012). Outsourcing public service delivery: Management responses in noncompetitive markets. *Public Administration Review*, *72*(6), 887–900. https://doi.org/10.1111/j.1540-6210.2012.02596.x

Gremler, D. D. (2004). The Critical Incident Technique in Service Research. *Journal of Service Research*, *7*(1), 65–89. https://doi.org/10.1177/1094670504266138

Gual, J., & Mas, N. (2011). Industry Characteristics and Anti-Competitive Behavior: Evidence from the European Commission's Decisions. *Review of Industrial Organization*, *39*(3), 207–230. https://doi.org/10.1007/s11151-011-9290-z

Habib, F., Bastl, M., & Pilbeam, C. (2015). Strategic responses to power dominance in buyer-supplier relationships: A weaker actor's perspective. *International Journal of Physical Distribution and Logistics Management*, *45*, 182–203. https://doi.org/10.1108/IJPDLM-05-2013-0138

Hanák, T., & Muchová, P. (2015). Impact of Competition on Prices in Public Sector Procurement. *Procedia Computer Science*, *64*, 729–735.

https://doi.org/10.1016/j.procs.2015.08.601

Heida, J., Joustra, F., & de Meij, J. (2022). *Marktverkenning Medische Hulpmiddelen*. [Market exploration Medical Devices] 1–59.

Heimler, A. (2012). Cartels in public procurement. *Journal of Competition Law and Economics*, *8*(4), 849–862. https://doi.org/10.1093/joclec/nhs028

Huff-Rousselle, M. (2012). The logical underpinnings and benefits of pooled pharmaceutical procurement: A pragmatic role for our public institutions? *Social Science and Medicine*, *75*(9), 1572–1580. https://doi.org/10.1016/j.socscimed.2012.05.044

Iossa, E., Rey, P., & Waterson, M. (2022). Organising Competition for the Market. *Journal of the European Economic Association*, *20*(2), 822–868. https://doi.org/10.1093/jeea/jvab044

Iossa, E., & Waterson, M. (2019). Maintaining competition in recurrent procurement contracts: A case study on the London bus market. *Transport Policy*, *75*, 141–149. https://doi.org/10.1016/j.tranpol.2017.02.012

Johnson & Johnson. (2019). *Annual Report 2019*.

Johnston, J. M., & Girth, A. M. (2012). Government Contracts and "Managing the Market": Exploring the Costs of Strategic Management Responses to Weak Vendor Competition. *Administration and Society*, *44*(1), 3–29. https://doi.org/10.1177/0095399711417396

Kraljic, P. (1983). Purchasing Must Become Supply Management. *Harvard Business Review*, *September-October*, 109–117. https://doi.org/10.1225/83509

Leslie, C. R. (1993). Achieving Efficiency Through Collusion: A Market Failure Defense to Horizontal Price-Fixing. *California Law Review*, *81*(243), 243–292.

McWilliams, A. (1993). Efficiency v. structure-conduct-performance: Implications for strategy research and practice. *Journal of Management*, *19*(1), 63–78. https://doi.org/10.1016/0149-2063(93)90045-o

Medtronic. (2019). *Annual Report: Fiscal Year 2019*.

Miles, M. B., & Huberman, M. A. (1994). *Qualitative Data Analysis: An Expanded Sourcebook*. SAGE Publications, Inc., Thousand Oaks.

Ministerie van Economische Zaken en Klimaat. (2021). *Monitor Aanbestedingen in Nederland 2017-2019*.

Nickell, S. J. (1996). Competition and Corporate Performance. *The Journal of Political Economy*, *104*(4), 724–746.

OECD. (1993). Glossary of industrial organisation economics and competition Law. *OECD Directorate for Financial, Fiscal and Enterprise Affairs, Paris*, 80.

http://www.oecd.org/regreform/sectors/2376087.pdf

OECD. (2009). *Guidelines for fighting Bid Rigging: Helping governments to obtain best value for money*.

OECD. (2022). *Competition Trends 2022*. http://www.oecd.org/competition/oecd-competition-trends.htm

Pazirandeh, A. (2017). Purchasing power and purchasing strategies - Insight from the humanitarian sector. In R. Bogaschewsky, M. Eßig, R. Lasch, & W. Stölzle (Eds.), *Supply Management Research. Advanced Studies in Supply Management*. Springer Gabler, Wiesbaden. https://doi.org/10.4324/9781315123370-5

Pazirandeh, A., & Norrman, A. (2014). An interrelation model of power and purchasing strategies: A study of vaccine purchase for developing countries. *Journal of Purchasing and Supply Management*, *20*(1), 41–53. https://doi.org/10.1016/j.pursup.2013.11.002

Pfeffer, J., & Salancik, G. R. (1978). *The External Control of Organizations - A Resource Dependence Perspective*. Harper & Row Publishers, New York.

Pfeffer, Jeffrey, & Salancik, G. R. (2003). *The external control of organizations: A resource dependence approach*. Stanford University Press, Stanford.

Philips. (2019). *Annual Report 2019*.

Prakash Sethi, S. (2006). *Group Purchasing Organizations : An Evaluation of Their Effectiveness in Providing Services to Hospitals and Their Patients*.

Pulles, N. J., Veldman, J., Schiele, H., & Sierksma, H. (2014). Pressure or Pamper? The Effects of Power and Trust Dimensions on Supplier Resource Allocation. *Journal of Supply Chain Management*, *50*(3), 16–36. https://doi.org/10.1111/jscm.12049

Schinkel, M. P., & Tuinstra, J. (2006). Imperfect competition law enforcement. *International Journal of Industrial Organization*, *24*(6), 1267–1297. https://doi.org/10.1016/j.ijindorg.2006.04.008

Schluter, J., Seaton, P., & Chaboyer, W. (2008). Critical incident technique: A user's guide for nurse researchers. *Journal of Advanced Nursing*, *61*(1), 107–114. https://doi.org/10.1111/j.1365-2648.2007.04490.x

Stylianou, K., & Iacovides, M. (2022). The goals of EU competition law: a comprehensive empirical investigation. *Legal Studies*, *42*(4), 620–648. https://doi.org/10.1017/lst.2022.8

Walker, D. M., McAlearney, J. S., Sharma, L., & Kim, Y. H. (2021). Examining the financial and quality performance effects of group purchasing organizations. *Health Care Management Review*, *46*(4), 278–288. https://doi.org/10.1097/HMR.0000000000000267

Walker, H., Knight, L., & Harland, C. M. (2006). Outsourced services and "imbalanced"

supply markets. *European Management Journal*, *24*(1), 95–105. https://doi.org/10.1016/j.emj.2005.12.011

Weiss, L. W. (1979). The Structure-Conduct-Performance Paradigm and Antitrust. *University of Pennsylvania Law Review*, *127*(4), 1104. https://doi.org/10.2307/3311794

Whish, R., & Bailey, D. (2016). *Competition Law*.

Yin, R. K. (2011). *Qualitative Research from Start to Finish*. The Guilford Press.

8 Appendices

Appendix A: Interview guide

Interview guide – research on anti-competitive behaviour in hospital procurement

For the interview, I would like to discuss three to five cases in which you have encountered anti-competitive behaviour. For each of the cases I would like to ask the following questions:

1. Please describe a situation in which you were confronted with anti-competitive behaviour of your supplier(s). Be as detailed as you can in describing how the supplier acted towards you/your organisation.
   - 1.1. How did this behaviour impact your organisation?
   - 1.2. Why do you think this behaviour is anti-competitive?
   - 1.3. How often have you encountered similar situations?
   - 1.4. How prevalent is this kind of practice in the market?

2. How did you react in this situation?
   - 2.1. Which actions did you take to improve your position?
   - 2.2. How did the supplier respond to your actions?
   - 2.3. How successful were your actions? How did it improve your situation or did it not?
     - 2.3.1. If not, did you take any additional measures? Which ones?
     - 2.3.2. If not: why not?
   - 2.4. At that time, did you consider any other ways of handling the situation?
     - 2.4.1. Which ones?
     - 2.4.2. Why did you not do this?
   - 2.5. In hindsight, would you have acted differently? How?

3. Can you describe how the market for this product functions?
   - 3.1. How competitive is the market? E.g. monopoly, oligopoly.
   - 3.2. What are the barriers to entry?
   - 3.3. How would you describe the relationship between buyers/suppliers? (distant/close, high/low trust, power imbalances)