SUBCONTRACTING IN A PATENT EXPERT ORGANISATION

Case: Nokia IPR, Patent Risk Defense Group
ABSTRACT

This study examines subcontracting in a patent expert organisation. The objective is to describe and analyse the current situation of subcontracting in the case organisation and give action proposals based on the theoretical literature and empirical findings. The study concentrates on two important subcontracting questions: What tasks should be done internally and what should be subcontracted, and how should the subcontracting be implemented? The study is a qualitative case study and the data was collected primarily by focused interviews. The case organisation is a patent group, which is part of the Finnish-based telecommunications company Nokia’s Intellectual Property Rights (IPR) function.

The basis of the subcontracting considerations is the make-or-buy question: what should companies make internally and what should they acquire from their suppliers. The theoretical part of this study concentrates on this discussion. The resource-based view (RBV) bases the decision on the company’s internal resources. A resource-based idea of ‘core competence’ divides companies’ activities into important core activities, which should be made internally, and supportive activities, which can be outsourced. Above the make-or-buy discussion, the theoretical literature offers concepts to help in this consideration: how the subcontracting relationship can be determined and the subcontracting implemented.

The empirical part of this study concentrates first of all on describing the current situation of subcontracting in the case organisation. The nature of the work and subcontracting as part of the work are described. Secondly, the empirical part describes the five success factors of subcontracting which were found from the research data. These factors are knowing and trusting the subcontractor, quality of the subcontractor, definition of tasks, effective use of internal experts’ time and cooperative way of working.

Deeper relationships with subcontractors were seen to bring more value for the company. To achieve these relationships, the case organisation should focus its group of subcontractors and start developing deeper cooperation. As well, the experiences of using different subcontractors should be collected regularly to help in deciding which subcontractors to start the development with.

Tutkimuksen teoreettisessa osassa osa-alihankintapäättösten perustan muodostaa kysymys, mitä yritysten tulisi tehdä sisäisesti ja mitä ostaa ulkoa alihankkijoilta. Resurssiperustainen ajattelu (RBV) perustaa päätöksen sisäisille resursseille. Resurssiperustainen ydinosaamisen ajattelu jakaa yrityksen toiminnat tärkeisiin ydintoimintoihin, jotka tulisi aina tehdä sisällä, ja tukitoimintoihin, jotka voisi ulkoistaa. Tämän ’valmistaa vai ostaa’ -pohdinnan lisäksi tutkimuksen teoreettinen osuus esittelee malleja, jotka käsittelivät alihankinnan toteuttamista ja erityisesti alihankintasuhteeseen liittyviä asioita.

Tutkimuksen empirinen osuus keskittyy ensin kuvailemaan alihankinnan nykytilannetta kohdeorganisaatiossa eli kohdeorganisaation tehtäviä ja alihankintaa niissä. Toisekseen empirinen osuus esittelee viisi alihankinnan menestystekijää, jotka tunnistettiin tutkimusaineiston sisällön analyysissa. Nämä menestystekijät ovat alihankkijan tunteminen ja luottamus, alihankkijan osaaminen, alihankittavien tehtävien huolellinen määrittely, sisäisen asiantuntijan tehokas ajankäyttö ja yhteistyönomainen työtapa.

Tutkimuksen keskeisinä tuloksina syvempiä alihankintasuhteita arvostettiin enemmän ja ne toivat enemmän hyötyä kohdeorganisaatiolle. Jotta nykyisistä alihankintasuhteista saataisiin syvempiä, kohdeorganisaation tulisi kohdentaa alihankkijajoukkoaan ja alkaa syventää suhteita jäljelle jäljien alihankkijoiden kanssa. Myös alihankintakokemuksia tulisi säännöllisesti kerätä sisäisiltä asiantuntijoilta, jotta tieto onnistuneista kokemuksista tukisi johdon päätöksentekoa.
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1 INTRODUCTION

1.1 Introduction of the study

The topic of outsourcing has gained a lot of interest during the past few years. Research has concentrated mostly on the outsourcing of manufacturing and clear support services such as cleaning and catering services (Ellram, Wendy & Billington 2008, 149). The other point of interest has been offshoring, which refers to outsourcing to another country (see e.g. Special issue of the Journal of Operations Management 2008). Studies have been made e.g. about relocating factories to China and the Indian IT sector and how this affects Western economies. However, the interest has mainly been on cheap labor forces and cost savings. Although other drivers of outsourcing have been mentioned in several studies, the viewpoint of not putting cost savings as a primary driver for outsourcing has not really been studied (Espino-Rodríguez & Padrón-Robaina 2006, 49-50). As well, research has not focused on services until recently, not to mention knowledge-intensive services (e.g. Metters & Verma 2008).

The topic of this study is service subcontracting in a patent expert organisation. The case company is the Finnish-based telecommunications company Nokia and the case organisation its ‘Patent Risk Defense’ group, which is one part of the company’s IPR (Intellectual Property Rights) function. The objective is to describe and analyse the current situation of subcontracting in the case organisation to provide information for the group’s subcontracting strategy creation. The case company and organisation are introduced more closely in Chapter 4.2.

The research problem in this study is how to use subcontractors in a way in which they best support the case organisation’s work. Because the workload in this kind of expert work is often heavy, the internal experts should use their time as efficiently as possible. The subcontractors should support the work as much as possible.
This study has some special features that separate it from many outsourcing studies. First of all it concentrates solely on subcontracting relationships and not all interorganisational relationships. This means that the studied relationships have clearly a client and a supplier. Another feature is that in this study drivers other than cost savings are more important. However, costs cannot be totally ignored, but no cost comparisons are done. Another important feature of the study is that the subcontracting consideration is done only for one group of the case company, not the whole company or even the complete IPR function.

The case organisation’s subcontractors consist of many different subcontractors with different competencies, from US-based law firms to Asian patent search companies and individual experts. The operative management has proven to be difficult without a strategy and adequate tools because the group of subcontractors has grown. Significant efficiency improvements are expected if the subcontractor usage would be optimised. This is why a clear strategy is needed to guide the subcontracting management.

IPR and especially patent issues form a special environment for the research, as their effect on the business can be significant. Infringing (i.e. violating) a patent can stop the sales in one or more countries and thus can cause substantial damages for the company. Effective use of the right subcontractors is a major factor in the success of the whole PRD group because the decisions are based on the work which has partially been done by subcontractors.

The main objective of this study is to describe and analyse the current situation of subcontracting to provide information for the group’s subcontracting strategy creation. The objective is twofold. In the theoretical part, the study discusses some theoretical considerations to suggest how the case organisation could decide what it should do internally and what to outsource. The theoretical part also introduces some models that help to describe the subcontracting relationship. In the empirical part the study first describes the current situation of the subcontracting. Secondly it describes the success factors of subcontracting that were categorised from the research data. These success factors are formed from the past subcontracting experiences.
The main research question is:

*How to use subcontracting in a way that best supports the case organisation’s work?*

The subquestions are:

1) What is the current situation of subcontracting in the case organisation?
2) How to make the make-or-buy decision?
3) How to implement the subcontracting?
4) How could the subcontracting situation be developed?

The theoretical part of the study in Part 2 examines two main theories that are applied in the outsourcing research and thus answers the second subquestion. The empirical part describes and analyses the current situation of subcontracting in the case organisation. Part 4 concentrates on describing the current situation and answers the first subquestion. In Part 5 the results from the content analysis are introduced. The analysis brought up five factors that are important for the success of the subcontracting. These factors are the basis for the answer to the third subquestion. The action proposals for the case organisation’s subcontracting are summarised in the conclusions in Part 6, which answers the fourth subquestion.

This research is a qualitative case study. A qualitative approach suits the study as the objective is to describe the subcontracting practices and current situation and to analyse them (Hirsjärvi, Remes & Sajavaara 2000, 152). The case study research strategy fits this study because a case study ‘investigates a contemporary phenomenon within its real-life context’ (Yin 2003, 12).

The research data was collected primarily by focused interviews and secondarily by documents and by observing the situation in the workplace. Interviews were chosen as a data collection method because the employees can best describe the subcontracting practices by describing the past experiences. Subcontracting is not perceived as a sensitive subject so the interviewees were expected to talk openly about the current practises of
subcontracting. In addition, interviews are easier for the interviewees as they only need to answer questions and do not have to fill in long questionnaires. The research data was analysed by content analysis. A closer description of the methodology, data collection and analysis is found in Part 3.

This study supports the idea that closer relationships with fewer subcontractors bring more value for the client and help the daily operation. The empirical evidence brought up five subcontracting success factors, which emphasise a closer way of working and focusing the group of subcontractors. As well, a pure cost-driven subcontracting did not seem to fit the patent expert organisation context.

1.2 Definition of key terms

Subcontracting

In some sources, subcontracting is perceived solely as a market-based form of outsourcing (e.g. Ståhle & Laento 2000, 85). In this study, the term does not entail this assumption but rather subcontracting refers to the buying of services from an external supplier. So subcontracting is an alternative to performing the task internally. Subcontracting is also perceived as an interorganisational relationship, where there is clearly a client and a supplier. In this study the subcontracting emphasis is on the idea of letting externals perform activities that have previously been done only internally.

Outsourcing

Generally, outsourcing is perceived as a strategic choice to transfer tasks to an external party (Gilley & Rasheed 2000). In this study outsourcing is used as a synonym with subcontracting. Also in this study outsourcing entails the possibility that the complete function can be transferred to an external party whereas subcontracting refers only to the transfer of selected tasks or processes. Thus outsourcing is used as a broader term and when the general phenomenon is discussed. In some studies these two terms are not completely synonyms (e.g. Baily, Farmer, Jessop & Jones 2005; Ståhle & Laento 2000).
Outsourcing to another country is called *offshoring*, which can be defined as the relocation of the manufacturing of products or production of services abroad (Youngdahl, Ramaswamy & Verma 2008). In this study the destination of the outsourced services does not play an important role because the case organisation has spread around the world.

*Subcontractor / supplier*

Suppliers are the companies and individual experts that perform the outsourced tasks and functions, i.e. the tasks that are not done in-house. In this study, a supplier is a synonym for a subcontractor and both of these terms are used in parallel.

*Intellectual property rights (IPR)*

Intellectual property rights (IPR) are immaterial rights, which protect the results of intellectual work (Oesch & Pihlajamaa 2003, 19). IPR is a common term for copyrights and industrial property. The latter includes e.g. patents, trademarks and design rights. (Haarmann 2006, 4) For this study only patents are a relevant part of IPR.

*Patents*

Patents are one form of IPR. A patent provides a right to prohibit others from professionally using a technical invention which has been defined in the patent claims. The invention must be new, non-obvious and industrially applicable; these are the three patentability requirements. A patent is valid only in those countries where the patent has been applied and approved and only for a limited period of time. (National Board of Patents and Registration of Finland <http://www.prh.fi/en.html>)

*Patent service*

In this study, patent services are the services that external patent experts and other subcontractors provide to the company. These services include e.g. prior art studies, patent searches, EP oppositions and infringement studies. The patent services are explained in more detail in Part 4.
**Expert**

The term ‘expert’ is closely connected to the terms ‘knowledge’ and ‘competence’. Experts’ work entails analysing, solving complicated problems, giving advice or using the knowledge some other way. Experts are usually highly educated and the work typically consists of independent projects (Sipilä 1996, 23-27). In this study there are internal and external experts. Internal experts are the case company’s IPR experts. External experts work outside the case company as subcontractors.

**Expert organisation**

An expert organisation is an organisation where the majority of the employees are experts. An expert organisation can be either a separate expert company or an expert department of another company. All expert organisations are service organisations. Typical expert organisations include universities and research centres, law firms, consulting firms and advertising agencies. (Sipilä 1996, 23-24) Professional service firm is a synonym for expert organisation (Lowendahl 2005).

**Process & task**

In this study the work is divided into processes and tasks. Tasks are part of a process, which is the term for a larger entity of work. The case organisation’s work has been divided into nine processes, which are introduced in more detail in Chapter 4.3. Examples of processes are technology studies, EP oppositions and opinions-of-counsel. The processes can be further divided into single tasks, which can be e.g. a database search, single patent analysis or a prior art study. Thus a task is a smaller entity of work.

**1.3 Exclusions of the study**

This study is about subcontracting in a patent expert organisation. It only examines subcontracting relationships and not networks or interorganisational relationships in general. A subcontracting relationship can be seen as a dyadic
network between two parties (Vesalainen 2006, 11). Other forms of networks are excluded from the study.

The study concentrates only on the company’s viewpoint. This view was chosen because the development of subcontracting is started from internal discussion and continued together with the subcontractors. By focusing only on the internal view the research can contribute to a deeper understanding. The subcontractors are not interviewed and thus their point of view is not taken into consideration. For further analysis, however, their point of view is also important.

Thirdly, the study concentrates on the general subcontracting situation in the case organisation, so it is based on a holistic view. The individual relationships with different subcontractors are not examined more closely. Only the biggest subcontractor receives some attention in the empirical part. Further, the subcontractors are not introduced partially due to confidentiality reasons.
2 THEORETICAL DISCUSSION

2.1 Background

Outsourcing is not a new phenomenon. However, research has mainly focused on manufacturing outsourcing and recently on offshoring. (Ellram et al. 2008, 149) Traditionally, the entities that have been outsourced are relatively small and only lately have grown to include whole operational processes, such as entire human resources or logistics functions (Kiiskinen et al. 2002, 78).

Neither has service outsourcing received much attention until recently (Metters 2008, 199). Research on service outsourcing has mainly concentrated on simple back-office services and especially on call centre services. About Knowledge-based service outsourcing has not been of great interest until very recent years, and IT outsourcing has become the major interest in that field (e.g. Krishna, Sahay & Nicholson 2003). Interest in service outsourcing is evident e.g. in the Special Issue of the Journal of Operations Management, entitled “Offshoring of service and knowledge work” (2008).

Relationships between two parties are called dyadic relationships and subcontracting is one form of these. These relationships are also one form of networks (Vesalainen 2006, 11). More and more business relationships are argued to be changing from pure market-based profit maximation towards deeper relationships and more complex networks. These networks have replaced some of the old market-based relationships. (Möller et al. 2006, 15-17)

The theoretical discussion is started with a look at the general drivers and risks in outsourcing. After that, the make-or-buy dilemma is discussed in the light of two theories: the transaction cost theory (TCT) and resource-based view (RBV). These are the most used theories to explain why companies do not make everything by themselves but outsource some of their functions. The two theories form the basis of the make-or-buy discussion. TCT is based on an economic approach (Williamson 1975, 7) while RBV stems from the study field of strategic management (Peteraf 1993, 179).
TCT and RBV are not opposites in the outsourcing discussion. Instead, they complement each other and together create a comprehensive approach to the theme. (Espino-Rodríguez & Padrón-Robaina 2006, 55) TCT concentrates on total cost minimisation, whereas the logic of RBV is value maximisation through resources (Das & Teng 2000, 36). Despite the fact that these theories approach the matter from different perspectives, many recent outsourcing studies have combined the two (e.g. Espino-Rodríguez & Padrón-Robaina 2006; Holcomb & Hitt 2007).

After the decision to outsource an activity, the organisation still has to decide how to implement the outsourcing. This theme is discussed in the theoretical part of the study. The most important part of the implementation is the depth of the relationship between the client organisation and the subcontractor. Some theoretical models and views of outsourcing implementation are introduced in Chapter 2.5.

Expert organisations (or professional service firms) provide the organisational context for this study. These organisations have been studied from different perspectives in recent two decades (e.g. Haywood-Farmer & Nollet 1994; Brock 2006; Awuah 2007). Expert organisations are professional service organisations, in which employees are educated professionals. Typical expert organisations include law firms, engineering offices, investment banks and universities. (Brock 2006, 157) Expert organisations are also knowledge intensive firms whereas the traditional manufacturing firms are more capital or labour intensive (Lowendahl 2005, 24-25).

Experts typically work on independent projects and this includes analysing, problem-solving and planning in the field of expertise (Ford 1997). Experts are highly educated and develop their competence constantly. Experts have special knowledge of the field of expertise and can give an official statement. Expert organisations are typically very dependent on their employees (experts) and their replacement is difficult. The intensity of experts’ projects varies as the project goes on. The time of the project can vary from some minutes to even
years. Experts might work independently for long periods and after the final report it can be seen what the expert has accomplished. (Sipilä 1996, 23-29)

2.2 Drivers and risks in outsourcing

2.2.1 Drivers

Outsourcing has some potential benefits that drive companies to find external suppliers for their functions and tasks. Only some of the potential drivers (and later risks) are presented here because not all of them are relevant in an expert organisation context. For example, the offshoring risks are not discussed in detail because in this case the destination of outsourcing is not relevant.

First of all, outsourcing changes the company’s cost structure from fixed to more variable as the company does not have to invest on those structures that the outsourced activities need. (Porter 1980, 309) Fixed costs decrease because the company does not have to undertake the risk of peak and slack seasons. In general, the costs decrease if the service provider performs the activity more cheaply. (McHugh et al. 1995, 136)

Outsourcing also provides the company with more knowledge if the service provider has specialised in that task or function and thus has better experts in that field (McHugh et al. 1995, 137). Based on the considerations of Prahalad and Hamel (1990) and Quinn and Hilmer (1994), outsourcing benefits the company because by outsourcing the company can focus on performing its core activities. This way, all the effort and investments are not wasted on less important support functions. McHugh et al. (1995, 137) see this as the most important benefit of outsourcing.

Holcomb and Hitt (2007) list three main drivers for outsourcing. First of all, outsourcing increases flexibility and decreases organisatorial rigidness. Outsourcing also helps to balance production when the demand varies. Outsourcing also decreases risk due to lower investments if the supplier makes these investments instead.
Metters (2008, 204) also states that a high variance in demand for the produced goods or service can lead to the decision to outsource. The company can realise significant cost reductions when it does not have to keep any reserve staff but can acquire the needed staff according to the demand. Baily et al. (2005) add that also a lack of internal resources may dictate outsourcing. This might be connected to the the objective of freeing resources for other activities, if the internal resources are scarce.

Kremic et al. (2006, 468-470) divide outsourcing drivers into three categories. The first category is cost-driven outsourcing, which is driven by a desire to reduce total costs for a certain function. This is possible when the supplier can perform a function more cheaply than the client. In contrast to cost-driven outsourcing, strategy-driven outsourcing focuses on strategic issues such as increased flexibility and the possibility to focus on core competencies. This view has gained more interest recently than cost-driven outsourcing. The last category, politically-driven outsourcing, applies only to the public sector and is driven by political reasons and may be used as only as a means of proving political power. A company has usually more than just one driver for outsourcing. (Kremic et al. 2006, 468-470)

### 2.2.2 Risks

Outsourcing also entails risks that should be taken into consideration. Loss of control over the task is one of the most relevant risks in outsourcing. This raises the question of whether the task has been done with enough high quality. If the company no longer performs the task, in time it will also lose the knowledge how the task can be done. This is called loss of in-house expertise. (MgHugh 1995, 137) This loss might prove significant if later it would be desired that the task would be done internally but no one inside the company can perform it. How the process is connected to other processes may be forgotten, and this can be a cause for trouble. (Metters 2008, 203)
Outsourcing also opens the possibility for opportunism. It means that a supplier can be guided by selfish intentions and thus might act against the client. (Williamsson 1975, 26) The risk of opportunism is one very fundamental concept of transaction cost theory, which will be discussed in the next chapter.

The supplier risk relates to opportunism and explains the different types of risks that occur with a certain supplier. This is why the supplier should not be chosen hastily. Compared to making things internally, the ways to affect an external supplier are often only formal and so the supplier might not be trusted and everything must be settled through written contracts. However, if the conditions change, it might be difficult to change the contract. There is also a financial partner risk if the supplier is not a financially stable company. (Metters 2007, 6)

2.3 Make-or-buy question

2.3.1 Transaction cost theory

The make-or-buy decision is about determining the level of vertical integration of a company, as the choice determines what the company wants to make internally and what it wants to outsource (Walker & Weber 1984, 374). The strategic feature of the question has been recognised and thus its importance cannot be ignored (Leiblein, Reuer & Dalsace 2002). Transaction cost theory (TCT) explains this decision from the economic point of view. According to TCT, outsourcing costs can be divided into actual production costs and so called ‘transaction costs’. Transaction costs include e.g. costs of finding and monitoring the subcontractor and they are the exchange costs from outsourcing a task or function. (Ellram et al. 2008) Williamson describes that transaction costs are like an economic equivalent to friction in physics. If the parties have many misunderstandings and confusion between them that cause delays and other problems, the transactions involve a lot of economic friction – thus transaction costs. (Williamson 1985, 2)

TCT has its roots in a very early article of Coase (1937) but is mostly based on the much cited work of O.E. Williamson. He argues that companies have two
choices when thinking of producing a product (or service). The company can either make it itself (make-option) or let the markets do it (buy-option). The choice between these two is based on their relative efficiency. So if an external party can perform the activity more cost-efficiently, the company should outsource the activity. (Williamson 1975, 8-9) However, if there is a risk that the supplier will act opportunistically, meaning against the client’s interests, the activity should be performed in-house. Opportunism suggests that entities act according to self-interest and choose accordingly. (Williamson 1975, 26)

Since Williamson’s work, TCT has dominated outsourcing research for about 30 years. However, TCT has been criticised as a too narrow economic perspective that does not take into account many important aspects of the outsourcing phenomenon. (Espino-Rodríguez & Padrón-Robaina 2006, 49) Thus it would not take into account firm-specific factors and competences. It has been argued that more factors affect the outsourcing decision than purely economic ones. (Holcomb & Hitt 2007) TCT also does not take into account the learning that occurs when transactions are done repeatedly. In other words, transaction costs are decreased when there is a past history between the firms. (Lundvall et al. 2006, 57) As TCT is a strongly economic viewpoint, it does not fit well into the expert organisation view, where neither production costs nor transaction costs are the primary decision-making factor.

2.3.2 Discussion

The make-or-buy question is a highly strategic question. It relates to the discussion of where the firm’s boundaries go. When a company decides to outsource a function, the control and responsibility for its performance becomes external. The more the company outsources different tasks and functions, the less it has control over them.

However, the make-or-buy question can no longer be seen as a black-and-white question of either to wholly make or wholly bought. The recent developments have complicated the question and brought new possible
answers between the two extremes. These models consider the breadth of outsourcing and are introduced in Chapter 2.5.

The make-or-buy question can be seen as the first question the company has to ask in making subcontracting decisions. However, TCT itself cannot provide the basis for this study because of its purely economic approach. The expert organisation context requires discussion beyond costs. Thus the answer to the make-or-buy question would more suitably come from another view, the resource-based view, which is introduced next.

### 2.4 Competence-based approach

#### 2.4.1 Resource-based view

The resource-based view (RBV) is based on the early work of Penrose (1959) which again received attention first by Wernerfelt (1984) and later by many other researches mostly in the field of strategic management (e.g. Barney 1991; Peteraf 1993). The fundamental basis of the RBV is the idea that all companies have heterogeneous resources and the competitive advantage of a firm comes from these resources, which are distinctive or superior in nature (Peteraf 1993, 179). So the resource-based view emphasises that the competitive advantage comes solely from a company’s own resources, and not, for example, from those of its suppliers and partners (Dyer & Singh 1998).

How then does the resource-based view relate to outsourcing? One resource-based approach to strategy analysis by Grant (1991) can be found in Figure 1. In this analysis, first the firms identify and analyse their resources and capabilities. The resources are the inputs, such as equipment, employees and products, that can be utilised by capabilities to create competitive advantages over rivals. After this, the firm can find a strategy which fits these resources and capabilities and also the external environment. Then the firms identify the so-called resource gaps, which need to be filled to successfully implement the chosen strategy. Outsourcing is then one option to gain the resources which are missed.
As seen, RBV does not directly consider outsourcing. But concentrating on performing the most important activities will result in a need to use external suppliers and this causes outsourcing. RBV concentrates on a firm's resources and capabilities and suggests that not only costs can be the determinants of outsourcing. The view suggests that a firm’s resources are the focal point in this decision-making. (Holcomb & Hitt 2006, 465)

Holcomb & Hitt (2007) suggest that based on RBV, some factors increase the possibility that a company will outsource an activity. First of all, if the subcontractor’s capabilities are complementary, meaning that they are different from those of the company, the company is more likely to outsource. Secondly, if the company and the supplier have the same kind of strategies and goals, it also increases the likelihood. As well, the same kind of knowledge-sharing routines increase the probability as it makes the practical issues easier. One key concept of the RBV is core competence, which will be discussed next.

2.4.2 Core Competence

The broadly used resource-based approach to outsourcing decision-making is a core competence, which is originally a concept of Prahalad and Hamel (1990) and was developed by Quinn and Hilmer (1994). Quinn (1999) later developed...
this concept also for knowledge-based services. Core competencies are a set of skills that create unique value e.g. special knowledge of a certain programming language or innovative supply-chain management. Usually there are just a few competencies within one company or function as no company can be good at all the activities it performs. Core competencies should also be adaptive to new situations and so be a basis for long-term competitive advantage. That is why the competencies should be in the company’s processes e.g. in the company culture. Also, good core competencies should be relevant in terms of the customer. (Quinn & Hilmer 45-47, 1994)

Figure 2 Outsourcing potential versus risk (Quinn & Hilmer 1994, 48)

Core competencies protect the company by creating a unique set of skills and systems that cannot be easily copied (Quinn 1999, 12). For example, a good subcontracting network and its management needs a lot of work and experience to work well and can not be overtaken easily by competitors. Quinn and Hilmer (1994) advise that to adopt this approach, companies should implement two things. First, the company should define its core competencies and concentrate the available resources for them. This way the company would focus on the things that really matter. Secondly, all other activities within the company should be outsourced (so-called ‘peripheral activities’). This way the company could focus its activities and also make the best out of externals’ knowledge and skills.
Quinn & Hilmer (1994, 48) argue that the outsourcing decision should be based on two dimensions (Figure 2). Firstly, the potential for competitive advantage affects the decision. The higher the potential is, the more the company should consider keeping the function in-house. The other dimension is risk of outsourcing. If the risks are low, the company can outsource the function without concern.

![Diagram showing core activities, activities supporting core, and standard support activities](image)

Figure 3 Companies’ activities (Kiiskinen et al. 2002, 24)

Based on the idea of Quinn & Hilmer, Kiiskinen et al. (2002, 24) divide companies’ functions into three categories (Figure 3). First, there are the core activities that should be kept and developed in-house. The second group are support functions that support these core activities. These should be done in cooperation with a carefully selected subcontractor. The third group are the standard support functions that should be outsourced, as there are many operators that provide these standard services.

### 2.4.3 Discussion

The transaction cost theory formed the outsourcing question into make-or-buy. The resource-based view offers one answer for the question. The RBV suggests that the decision-making should be based on the division between core functions and support functions. This idea is a simple solution for the decision-making. However, in practice the decision-making is not that simple as the core functions can be quite hard to distinguish from the support functions.
However simple the idea of core competence is, it is still very useful for many companies. Taking a closer look at what the company or a function is doing can reveal surprising things and faults in what the time is actually used for. After a critical consideration, a rethinking of what are the most important tasks and what are just supporting these, can be done. The clear support functions can then be outsourced, if it suits the situation. Although the discussion would not lead to outsourcing, it is worth having to confirm the focus of the company’s or function’s operation.

The ideas of core competence and core activities are normally applied to complete organisations. However, the ideas also suit organisations that are support functions. When a decision has been made that the whole function will not be outsourced the question remains, what parts of it should be. These parts can be chosen based on considering what strategical importance (meaning core competence) the support function has and should have also in the future. This is then the basis for the decision about which tasks should be kept in-house.

The RBV as a basis for outsourcing decisions suits this study because it focuses on the resource and competence issues, not solely on costs. The context of an expert organisation requires more than just a consideration of costs. In particular, the costs cannot be used as a primary decision-making criterion. Expert work can be characterised by the terms ‘knowledge’ and ‘competence’, which are key concepts also in the RBV.

For this study the answer to the make-or-buy question comes from the RBV. However, the theory cannot solely provide the answers for complete subcontracting. This is already because the case organisation operates in a special IPR environment. This is why the empirical evidence is used to find out the success factors of subcontracting in the case organisation. These success factors answer the question of how the subcontracting should be implemented. The theory can provide some models to support this analysis and these models are described next.
2.5 Subcontracting relationships

2.5.1 Introduction

When choosing the ‘buy’ option of the make-or-buy question, the companies have many different possibilities regarding how to implement the outsourcing. These possibilities can be divided into two dimensions: the breadth of outsourcing and depth of the outsourcing relationship. The breadth describes the scope of outsourcing, meaning how extensively the organisation uses suppliers. The depth describes how deep the relationships are with different suppliers. Before discussing these two dimensions, the relational view is discussed briefly. The view analyses the relationship between two organisations instead of single companies and is thus can provide important notions of how to implement the outsourcing. Other important concepts of interorganisational relationships are trust and commitment, which are briefly discussed last.

2.5.2 Relational view

Instead of individual companies, the relational view analyses a pair of companies and the relationship between them. The view suggests that the critical resources of a company may come from the cooperation between other companies and the company does not have to produce everything on its own. This means that the company can and should be dependent on its suppliers and partners. It is actually this dependence and frequent use of fewer suppliers that creates real possibilities for value adding. This is because when the suppliers see that the client is dependent on them, they can trust that the client will not change to another supplier. So the relational view suggests that the client should focus on developing closer relationships and building trust with fewer suppliers. (Dyer & Singh 1998) This view is contrary for Porter’s (1980) view that a company should not depend on few suppliers too much but to change suppliers in order to decrease risk and commitment.
2.5.3 Breadth of the outsourcing relationship

Ellram et al. (2008, 157-158) see the outsourcing choices as a continuum in which are many opportunities to choose from. Table 1 shows six different types of outsourcing, from making in-house to complete business process outsourcing. These two are the extreme ends of the continuum and in the middle they leave choices from temporary labour, out-tasking, outsourcing with buy-sell to outsourcing with audits. Other researchers (e.g. Metters 2008; Fill & Visser 2000) also agree that outsourcing has many variations and outsourcing the complete function is not the only choice companies have.

Table 1 Outsourcing types suited to ideal characteristics (adapted from Ellram et al. 2008, 157-158)

<table>
<thead>
<tr>
<th>IDEAL CHARACTERISTICS</th>
<th>In-house</th>
<th>Temporary labour</th>
<th>Out-tasking</th>
<th>Outsourcing with buy-sell</th>
<th>Outsourcing with audits</th>
<th>Business Process Outsourcing (BPO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of control over process</td>
<td>Highest</td>
<td>High</td>
<td>Med-High</td>
<td>Medium</td>
<td>Med-Low</td>
<td>Lowest</td>
</tr>
<tr>
<td>Level of trust required</td>
<td>Highest</td>
<td>Med-Low</td>
<td>Medium</td>
<td>Med-Low</td>
<td>Med-High</td>
<td>Highest</td>
</tr>
<tr>
<td>Risk of unable to measure performance</td>
<td>Lowest</td>
<td>Low</td>
<td>Med-Low</td>
<td>Medium</td>
<td>Med-High</td>
<td>Highest</td>
</tr>
</tbody>
</table>

In Table 1 the six outsourcing types are suited to ‘ideal characteristics’, which describe the suitable characteristics for each outsourcing type. These characteristics are degree of control over process, level of trust required and risk of unable to measure performance. Ellram et al. (2008, 158) suggest that the most suitable outsourcing type should be selected based on these characteristics and also a careful risk analysis. In particular, uncertainty should be taken into consideration because when making the choice of outsourcing a company will limit its future possibilities. This is because the knowledge of completing the task or process will move outside the company.
2.5.4 Depth of the outsourcing relationship

Also the depth of the subcontracting relationship is an interesting factor and many theoretical models help to define it. According to Ståhle & Laento (2000, 81-103), intercompany relationships can be on three different levels. The first level is *operational partnership*, in which both of the companies seek to maximise their own benefits and relationships are based on formal contracts. Both companies also have many possibilities to change the operational partner and commitment is seen as a risk. Contracts are often fixed-term. In operational partnerships the drivers are cost-benefits. Cost-driven subcontracting is perceived as one form of operational partnership.

*Tactical partnership* aims not only at cost-benefits but also learning. This form of partnership requires trust and knowledge integration and it is more than just repeated exchanges. The investments in the relationship are equal and the relationship is based on cooperation and dialogue.

The final level is *strategic partnership*, which is the deepest form in intercompany relationships. It aims at significant strategic benefits for both the parties and requires trust and commitment. Corporate cultures, values and procedures are harmonised and the parties are equal partners, not a supplier and a client. The risk from strategic partnerships is the highest, but also the possibilities to create value are greater.

Another categorisation is provided by McHugh et al. (1995, 102-103), who divide outsourcing relationships into four levels (Table 2). Price is the most important selection criterion on the first level (conventional). On this level, cooperation is driven by the client and the supplier only has a passive role in it. On the second level (associated), the supplier is consulted in development and also trusted in quality assurance. Instead of price, the major selection criterion is total costs. These first two levels correspond to the operational partnership of Ståhle & Laento (2000). On the third level (partner), the supplier is involved in product and technology development and the companies are in a cooperative relationship. This is much like the tactical partnership presented earlier. On the
deepest level (holonic nodes), everything is done together equally and also the values and goals are mutual. This is comparable to strategic partnership.

Table 2 Supplier levels according to McHugh et al. (1995, 102-103)

<table>
<thead>
<tr>
<th>SUPPLIER LEVEL</th>
<th>QUALITY</th>
<th>PRODUCT AND TECHNOLOGY DEVELOPMENT</th>
<th>CHOICE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Conventional</td>
<td>Client inspects according to given quality specifications</td>
<td>Client is responsible</td>
<td>Price</td>
</tr>
<tr>
<td>2. Associated</td>
<td>Supplier makes self-certifications</td>
<td>Supplier is consulted</td>
<td>Total cost</td>
</tr>
<tr>
<td>3. Partner</td>
<td>Continuous improvement together</td>
<td>Supplier involved</td>
<td>Speed</td>
</tr>
<tr>
<td>4. Holonic nodes</td>
<td>Co-design</td>
<td>Joint development</td>
<td>Market innovation and support, shared values, flexibility</td>
</tr>
</tbody>
</table>

Vesalainen (2006, 205) points out that deepening of the subcontracting relationship and partnership-level subcontracting should not be a self-evident target. The decision for the question always depends on the case. Both parties should analyse whether a deeper relationship is worth the effort and what will it bring for the company. Only after that can they discuss together and decide whether to start building a deeper relationship.

2.5.5 Trust and commitment in relationships

Companies in exchanges appreciate not only the economic aspects of the exchange but also the relational aspects (Thibaut & Kelley 1959 in Whitten & Wakefield 2006). These aspects include trust and commitment and they form an important aspect in relationships between companies (Whitten et al. 2006, 227). Productive cooperation is not born out of nowhere. Relationships need trust in order to work. However, trust is very difficult to attain and also measure. (Karjalainen et al. 2004, 35) According to Tomkins (2001, 170) trust makes us feel that the uncertainty has decreased although in reality it has not. Trust just makes us feel more secure in the relationship.
Sako (1992, 37-39) defines trust as ‘predictability in behaviour’ and distinguishes three categories of it. *Contractual trust* means keeping promises and acting according to what is agreed. *Competence trust* is about the partner’s ability to perform the given tasks. The difference between these two categories is that competence trust is realised when the partner *can* perform the task as agreed and contractual trust when the partner *will* perform it as agreed. The third type of trust is *goodwill trust*, which means partners’ commitment to the relationship and its development. So goodwill trust goes beyond the agreed contract.

How can trust then be acquired? Several theorists emphasise repeated interaction, which forms the basis for building trust (e.g. Tomkins 2001; Möller et al. 2006). By repeating the transactions, the companies create an expectation that the business relationship will continue. This always takes time and cannot be done overnight. When the relationship gets deeper, the level of trust increases. (Tomkins 2001, 169) Also the relational view emphasises repeated transactions and dependence on suppliers as a basis of building trust (Dyer & Singh 1998).

Commitment needs trust to be built and thus trust can be seen as a precondition for commitment (Gadde & Håkansson 2001, 107). Commitment has also been studied broadly. Studies have shown that the long-term commitment of suppliers creates many benefits, and especially the investments for developing the supplier have a positive linkage to client performance. (Krause, Handfield & Tyler 2007) However, commitment always increases the client’s dependency on the supplier and the supplier’s power in the relationship (Provan & Gassenheimer 1994). It is a matter of perspective whether this dependency is seen as positive or negative.

**2.5.6 Discussion**

The intercompany relationship and its depth form an important part of the success of subcontracting. Different kinds of environments and work require different kinds of cooperation. The introduced theoretical models provide
important considerations concerning how the buy-option of subcontracting could be implemented. The depth of the relationship can vary from pure client-driven price competition to very deep strategic cooperation between the parties. The latter emphasizes commitment and trust between the client and the supplier. Also the relational view suggests that the subcontracting creates more value if the relationship is closer.

There is no one optimal way to arrange the subcontracting in all organisations. In particular, the cooperation must be at a suitable depth. Deep relationships require commitment and effort for their development. The risk is that the company becomes too dependent on the subcontractor. However, short-term market-based relationships might not be able to offer services which need time to be developed. In these kinds of relationships trust cannot be achieved because the parties will not commit to the relationship.

This is why the suitable depth of a relationship must be considered separately in each case. In this study the implementation of the subcontracting is guided by the empirical evidence. The theory can only provide models and concepts to help the analysis, not direct answers.

### 2.6 Summary

The theoretical discussion is summarised in Figure 4. The background for the subcontracting discussion comes from the transaction cost theory, which has simply formed the decision into a make-or-buy question. For this study, the idea of the question is to start the discussion of what should the company make internally and what services it could acquire from subcontractors. The question is the very basis of the whole discussion. By choosing the ‘make’ alternative, the company sends a message that the function is important and the company wants to perform it in-house. However, the ‘buy’ option sends an even stronger message because then the company is ready to trust an outsider to perform the task or function on behalf of the company. Both of these decisions are highly strategic and the consequences of both options need to be closely considered.
This is why also the risks and drivers of outsourcing need to be identified in each case.

However, the TCT’s answer to the make-or-buy question does not fit the expert organisation context well. The TCT is a solely economic view, where the make-or-buy decision is made in a straightforward way by counting total costs. This view does not fit this study well. In an expert organisation, other factors beyond costs have to be considered in making the decisions.

This is why the RBV can provide a more suitable answer to the make-or-buy question. The basic view of the RBV is that the company’s competitive advantage comes from its own resources and it should concentrate only on doing the critical tasks and outsource the support functions. This is especially important in an expert organisation context to make the most out of highly-educated experts’ time. This is why the company should find the core of its activities and concentrate on performing that. The external experts can then best provide the supporting tasks they are specialised in. This way the case organisation also gets the most out of the external parties’ special competence.

Figure 4 Summary of the theoretical discussion
The relational aspects complete the picture by emphasising that the company does not have to own all the critical resources but its suppliers can also add value and help in creating a competitive advantage. Thus the unit of analysis is not the individual company but the relationship between the client and the supplier. This discussion is important when deciding how to implement the subcontracting.

The relationships with the case organisation’s suppliers and the implementation of the subcontracting are analysed next in more detail in the empirical part of this study. Solely theoretical considerations cannot give a complete answer to how to implement the subcontracting (i.e. ‘buy’ option). The theoretical discussion can only provide some guidelines and models for this. But due to the specific case organisation and environment, the best practices of subcontracting must be searched from practice.
3 METHODOLOGY

3.1 Case study method and research process

Yin (2003) describes a case study as an empirical study which examines a current phenomenon in its natural environment. Hirsjärvi et al. (2000) add that the interest in a case study is often in processes and that the objective is to describe the phenomenon. The objective of this study is to describe and analyse the subcontracting in a case organisation which has been studied in its natural environment. Moreover, the study is based on action-analytical analysis, which means that the purpose of the study is to describe, interpret and understand single cases and operations (Neilimo & Näsi 1980, 34-35).

The research process is shown in Figure 5. The research did not proceed as a clear linear process but rather different parts of the process took place simultaneously. This is typical in qualitative research (Alasuutari 1994, 223). The research questions evolved and developed during the research process. The whole process was started by introducing the situation and settling the research problem between the case company and the researcher. After this some background literature was read but it became clear that first the case organisation’s situation should be found out in more detail.

First, the internal experts explained what the case organisation was doing and what all the tasks were about. The understanding of the tasks became deeper during the research as the researcher was observing the situation at the workplace. This made it easier to understand the nature of IPR work. Observation was seen only as a supportive method to understand the work and the subcontracting situation. However, observing did not get the researcher too deep into the work to the extent that it would have had a negative impact on the objectivity of the study.
The case organisation’s work was divided into nine processes, of which three are described more closely as examples in Chapter 4.3. These three processes are technology studies, EP oppositions and opinions-of-counsel. All of the processes cannot be described in this study because they are confidential information. For each process, an internal contact person was named, who was contacted and interviewed. In total there were five contact persons as some processes had the same contact person. This was beneficial because some of the processes are quite different in nature.

The processes have smaller tasks, and some of these are sometimes subcontracted. Some tasks are the same in different processes. These tasks include e.g. prior art studies and patent database searches. The work is not always strictly just implementing one process but working together with the other processes and internal experts.
The interviews were also started from the beginning to find out about the current situation. The first interviews were centred more on asking about the current situation, the biggest problems and the work itself. The interview questions were focused along the way. The interviews are presented in detail in the next chapter.

During the whole research process, the internal experts were available for consultation if the researcher needed to ask further questions. This was seen to be very beneficial especially because understanding the patent experts’ work was quite difficult. The research problem evolved during the study and was not fixed before the final report. Also the case organisation’s situation, its complexity and all the affecting factors were understood better during the study. What was first thought as a simple case study turned out to be a more complex situation with very special IPR industry features.

3.2 Data collection

3.2.1 Interviews

The focused interviews went well and major problems did not occur. The table of interviews is in Appendix 1 and includes titles of interviewees, interview dates and the place where the interview was held. The interviews were started at the beginning of the study and were not guided by any structured theoretical framework. The purpose was to ask the interviewees to describe their work and subcontracting. The framework of the interview questions can be found in Appendix 2. It was developed during the interviews and was used only to support the remembering of the interview questions. Thus the framework was not obligatory and the interviewees were encouraged to give their views quite freely above the interview questions.

Nine people were interviewed from August until October 2007. The interviews included the group manager, three team leaders, four internal experts and one sourcing expert. The internal experts talked about their work. Also the team
leaders told about their work and were able to give a broader perspective on the subject. The group manager mostly described the situation and the problems. The sourcing expert provided insights for the whole case company’s subcontracting.

The last two interviews did not provide much new information. This can be seen as a sign that more interviews would not be necessary at that point, because the data was starting to saturate (Eskola & Suoranta 1998, 62-63). When the interview data was analysed, it seemed to provide enough information and more interviews were not seen necessary.

Two interviews were held in English and the other seven in Finnish. The English interviews were not perceived as problematic although it was not the interviewer’s mother tongue. The interviewees talked clearly and slowly enough for the interviewer to understand. All the interviews were recorded and transcribed. The interviews were transcribed as soon as possible after the interviews so that they were still clearly remembered. There were no problems in using the recorder, which was an mp3-player. The transcription went without problems as there were no interference noises. All the interviewees accepted the recording.

One interview was interrupted because the time ran out. However, there was enough time for the interviewee to tell about the experiences and this was not seen a problem. Two interviews were held in a quiet but public place, however not outside the company’s premises. This did not seem to bother the interviewees. One interview took place outside the premises but in a closed room. All these factors were not seen as disturbing nor did they seem to affect the interview results. The length of the interviews varied from 14 to 67 minutes.

3.2.2 Observation and documents

Observation was used as a secondary data collection method. The research was done in the company’s premises and the observation took place in the work-place by getting to know the group’s work and the nature of the expert work.
This was seen to be essential to understanding the situation and how the nature of work affects the nature of subcontracting. Also the patent terminology was better understood because of the daily presence in the company’s premises. A research diary was kept to write down important observations and other ideas about the case organisation and situation. The observations supported the research data collected by the interviews, so the role of the observation was supportive, not dominant. The observing was not seen as negative nor did it weaken the reliability of the research because the researcher was not involved in the experts’ daily work and only the research was the primary task.

Above the observing, written documents were also used as a secondary data collection method. Mainly they were used to understand the case organisation’s work and processes. Written documents included presentations, other internal documents and the company’s web and intranet pages.

3.3 Content analysis

The research data was analysed using content analysis, which was done in English. The purpose of content analysis is to create a verbal and clear description of the research phenomenon, and to reform the data without losing the essential information by structuring fragmented pieces of data into more coherent information. (Tuomi & Sarajärvi 2002, 110) Content analysis suits unstructured data well (Kyngäs & Vanhanen 1999, 4).

The first step of content analysis is deciding the unit of analysis, which can be e.g. one word, sentence or statement. The decision is based on the objective of the research and the research data. (Kyngäs & Vanhanen 1999, 5) In this study, a statement was selected as the unit of analysis. This was chosen because e.g. individual words cannot express the interviewees’ thoughts widely enough. Conversely, larger entities, which include several sentences, would make the categorisation more complicated.
After deciding the unit of analysis, the interviews were printed on paper to make reading easier. Then the interviews were read through a couple of times to get a good impression of the data and to also recall the first interviews. Koskinen, Alasuutari & Peltonen (2005, 231) emphasise that reading the data is important, as the researcher builds a basis for further analysis by thinking about the features of the data and possible categories.

The analysis was inductive. This means that it was not guided by any theoretical framework (Tuomi & Sarajärvi 2002). As the research question was not yet specified, an additional data question was posed after reading the data “Which comments tell about success and failures in subcontracting?” Then, all the relevant statements were highlighted from the printed interviews. The data question was interpreted quite widely so that all the relevant statements would be marked and included in the content analysis. Later in the process this was noticed, as some of the marked statements did not match the question after closer consideration. These statements were then removed. Altogether 180 statements were found.

After marking the relevant statements, they were listed in an Excel file. The Finnish statements were translated into English as they were listed into the file. Then the statements were simplified. This means that the original statements are written in a more simple form. This is the first step in making categories from the unstructured data (Kyngäs & Vanhanen 1999, 6). Some examples of the original statements and their simplifications are found in Figure 6.

![Figure 6 Content analysis: examples of simplifications and subcategorising](image)
After simplifying the original statements, their categorising began. This step is about finding similarities and differences in the simplified statements. Similar statements are unified under the same category and the category is named. (Kyngäs & Vanhanen 1999, 6) In this study there were three stages of categorising which formed the subcategories, main categories and main groups. Some examples of the categorisation are found in Figure 7. In all, five main groups were formed, and all are described in the empirical part of the study in Part 5.

The final step of the content analysis was abstracting. This means conceptualising the research data by using known terms. Abstracting is already a part of the categorising step and these two steps go in tandem. (Kyngäs & Vanhanen 1999, 7) This was noticed also in this study, as the categorisation and abstracting steps could not be clearly distinguished.
4 CURRENT SITUATION OF SUBCONTRACTING

4.1 Introduction

This chapter describes the current subcontracting situation in the case organisation. First, the case company and organisation are introduced in Chapter 4.2. A closer look at the current situation of subcontracting is presented in Chapters 4.3 - 4.6. The interviews revealed one cooperation experiment, which is introduced in Chapter 4.7. Finally, drivers and risks of the case organisation’s subcontracting are analysed in Chapters 4.8 and 4.9.

The description of the current situation is seen as very important as the basis of the further development. The case organisation can now have a closer description and analysis of the situation. Also it is important to understand the the patent service environment where the subcontracting takes place. This is why the case organisation’s work is introduced first.

4.2 Introduction of the case company and organisation

The case company is the Finnish-based telecommunications corporation Nokia. The company is the world’s leading mobile phone manufacturer with an estimated 39% global market share. In 2007 Nokia’s net sales were about 51 billion euros and operating profit about 8.0 billion euros. In the end of year 2006 Nokia group had globally over 68 000 employees (including Nokia Siemens Networks) and almost 24 000 employees in Finland alone, which makes it the biggest private employer in Finland. (Nokia web pages <http://www.nokia.fi/nokia>).

However, the case organisation is not the whole corporation but only Nokia’s Intellectual Property Rights unit (IPR) and more accurately one of its subgroups, Patent Risk Defense (PRD). The IPR unit’s objective is to strengthen Nokia’s technological competencies e.g. by enforcing Nokia’s patents and trademarks, filing and prosecuting new patent applications, protecting the brand and by ensuring freedom of action. The PRD group’s role concentrates on third-party
patents and the objective is to clear patent risks that third party’s patents may cause for the company. This means that the PRD experts e.g. study third-party patents in order to analyse their relevance to Nokia products. So the group does not deal with Nokia’s own patents but with others’ patents affecting Nokia’s products. The PRD group’s customers are internal functions. PRD has existed as an independent team for about two years and has employees in nine cities in three countries. Main locations are Tampere and Dallas.

The PRD group’s objective is to handle patent risks posed by third parties. This means that PRD experts study third party patents in order to analyse their relevance to Nokia products. The group’s employees are experts in a certain technological field and above technological knowledge they have a good understanding of patents. Some experts have a patent attorney background and others have worked as technical experts. The work requires knowledge of both of these areas but especially patent-related competence. When working on a task, the internal experts can also consult internal technical experts (outside IPR) before turning to an external expert.

Internal expert’s work is quite independent in nature. Each expert has his or her own projects, which deal with different cases. However, the internal experts do interact with each other and ask for others’ opinions when needed. The internal experts are specialised so that they usually deal with only one or two processes. In the next subsection the processes are described in more detail to create a better view on the group’s work.

The PRD group, and also the complete IPR unit, is a typical expert organisation. Most of the experts in PRD have a master’s degree and the nature of their work is about using the knowledge they have to analyse patent cases and to solve problems. The work takes place in quite independent projects. All these attributes are the same as in Sipilä’s (1996) description of expert organisations. Actually the whole case company can be called an expert organisation, as it is a high-tech company and most of its employees are highly-educated experts.
The IPR unit could also be described as a support function for the whole case company. This means that the IPR unit supports the actual core business of the company. However, IPR issues are a key part of any high-tech company, which makes the unit very important for the actual core business. In the three categories of a company’s functions by Kiiskinen et al., (2002) the case organisation cannot be viewed totally as a core function and neither as a standard support function. This is why the IPR function can be said to be a function supporting the core.

4.3 Work processes and subcontracting

For this study, the case organisation’s work was divided into nine processes. These were defined as larger entities of work which can be further divided into smaller tasks. The nine processes differ from each other especially in content but also in nature. All the processes need patent expertise and are typical expert work. However, outsourced tasks do differ in each process and the level of how much is outsourced. In some processes more subcontractors are used than in others. This is mainly because different processes and tasks require different kinds of expertise. Three processes are now introduced in more detail: technology studies, EP oppositions and opinions-of-counsel. Subcontracting in these processes is also described. The remaining six processes cannot be described as they are confidential information.

Technology studies mean outlining a particular technology area (e.g. GSM) and searching for the potential patents in that area. These studies include breaking down the technology area into smaller areas, searching for patents in those areas and analysing the patents and their relevance for the case company’s plans for future technologies. In these studies, the patent search and pre-analysis is done by subcontractors but the patent analysis is done in-house.

Oppositions are filed in the European Patent Office (EPO). An opposition refers to a counterargument against a granted patent. If there are grounds for an opposition, e.g. the patent does not fulfil the three patent requirements, a third
party can declare this for the EPO and present the evidence against the patent. Opposition work is mostly outsourced. This is done mainly because the number of oppositions is quite high and it would require much more resources to do them in-house. The internal expert pre-examines the matter and chooses a qualified patent attorney who then prepares the actual opposition. This process requires strong experience from the subcontractors. The complete opposition process usually includes smaller tasks such as prior art studies, which can also be performed by subcontractors other than patent attorneys. Subcontracting these tasks from another subcontractor is mainly done due to cost-related reasons.

Opinions-of-counsel mean asking an external to form an opinion on infringement of patent in the United States. A competent external expert gives an opinion of whether a case company’s product violates someone else’s patent. This process requires knowledge of patents but also knowledge of the patent’s technology area. Opinions-of-counsel have to be outsourced to receive an external opinion so they cannot be done internally.

Inside the processes there are some tasks that are common. One example is prior art studies. This means studying the validity of a third party’s patent by going through prior information about the invention and the technology in question. If prior art is found for the patent, it is invalid because it does not fulfil the patentability requirement of novelty. Prior art studies are one form of information searching and different public databases are used to find information. Prior art studies is maybe the most common outsourced task.

The work of the PRD group is in projects referred to as ‘cases’. The cases deal with different patents, technology areas and the priority also varies, meaning that some cases are more urgent than others. One special feature of IPR work is that the work of the group is heavily dependent on the case. Thus subcontracting is also more dependent on the cases than the nine processes. Some cases require urgent measures and more confidentiality. Thus in some cases many tasks which are usually outsourced are done internally. This requires that all the tasks can be performed in-house, and the competence
cannot be totally lost. This must be taken into consideration when thinking of wide-scale outsourcing of a particular task.

4.4 The current subcontracting process

The subcontracting process has some common steps although it always varies in different work processes and cases. The general subcontracting process is presented in Figure 8. Each step in the subcontracting process is very crucial for the success of the whole process.

<table>
<thead>
<tr>
<th>CURRENT SUBCONTRACTING PROCESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>➔ Choosing the task to be outsourced</td>
</tr>
<tr>
<td>➔ Choosing and contacting the subcontractor</td>
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<tr>
<td>➔ Explaining the task to the subcontractor</td>
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<tr>
<td>➔ Confirming that the subcontractor has understood the task</td>
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<tr>
<td>➔ Agreeing on the invoicing and use of time</td>
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<tr>
<td>➔ Communicating with the subcontractor during the task</td>
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<tr>
<td>➔ Results from the subcontractor (in a clear report)</td>
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<tr>
<td>➔ Reviewing the results together with the subcontractor</td>
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<tr>
<td>➔ Feedback for the subcontractor</td>
</tr>
<tr>
<td>➔ Paying the invoice</td>
</tr>
</tbody>
</table>

Figure 8 Current subcontracting process

First, the internal expert decides which task is outsourced for an external subcontractor. The decision is mainly based on how busy the internal expert is. After this, the expert decides which subcontractor is to be contacted to do the task. These two steps are partially interrelated. For example, a task might not be outsourced if a suitable subcontractor to carry out the assignment is not known. Also, if there is a good subcontractor, the willingness to outsource a task may be greater. The choice of the subcontractor is also dependent on the subcontractor’s willingness to perform the task. If the subcontractor is too busy with other assignments, it may not take the task, and another subcontractor has to be found. When a suitable subcontractor is found, the task is explained. At this point the subcontractor and company usually agree on the costs and time that can be spent on the task.
When the subcontractor starts doing the task, some communication may still be needed about the task and its performance. Some tasks are done in closer cooperation with the subcontractor than the others, depending much on the nature of the task and the subcontractor. If the task is well understood by the subcontractor, dialogue during the task may not be necessary.

Finally, the subcontractor sends the results to the company and the internal expert looks through and accepts them. The subcontractor and the internal expert might also look through the results together. If there is a need for additional information or work, the internal expert might ask for changes. The final step is to pay the bill the subcontractor has sent.

4.5 Variety of subcontractors

The company has many kinds of subcontractors. Most of them are law firms, patent agencies or search companies. There are also some individual experts and universities. There are about half a dozen of subcontractors which are used frequently. This group is formed on the basis of past experience. The subcontractors that are considered good are used again and the ones that have not impressed are not reused. In this way the group of subcontractors is formed through trial and error. The quality and competence of a subcontractor cannot be known without letting them do at least one task as a test.

The word ‘group’ is actually misleading because there is no clear group of subcontractors. There are a number of subcontractors used. Some have been used only once and some are used quite often and for many kinds of tasks. But if the internal experts would have to name ‘the group of subcontractors’, everyone would list different companies on the basis of which they have used personally. This is natural because different processes require different competences and thus different kinds of subcontractors.

However, among the many subcontractors there is one that stands out the most and that would be most probably mentioned by everyone in the case
organisation. This subcontractor provides different kinds of search and monitoring services for the case organisation. Its benefits are partially cost-related as its prices are much lower than what e.g. law firms charge. This is possible because it is located in a country that has lower production costs and its employees are less experienced. The lower rates enable acquiring simple mechanical tasks (e.g. patent monitoring) more cost-efficiently and the internal experts do not have to use their time for these tasks. The downside of this type of subcontractor is that it may not have enough competence for all tasks, so not all tasks can be acquired from them.

If I put this subcontractor to make oppositions, it just won't work. It takes a long time and the opposition turns out bad. And we have to be guiding them all the time. (interview 2)

Another negative side is that the turnover of the subcontractor’s employees is quite high. This means that the employees change and the internal experts might be dealing with different people all the time. This makes the communication more complicated as the internal experts do not get to know the subcontractor’s employees.

This is in a way really difficult because I don’t know who does their work there… (interview 6)

4.6 Relationships on different levels

The relationships with different subcontractors are on different levels. However, none of them can really be called more than operational partnerships, which were described as cost-driven relationships which require no commitment (Ståhle & Laento 2000). The exception is that costs are not the primary driver of selecting the subcontractor but rather competence and quality of work. This is discussed in more detail in Chapter 5.3.

Although one subcontractor is a major supplier of many tasks, not even this relationship is really on a level that can be called an equal and close strategic partnership, according to Ståhle and Laento (2000). Neither is it an equal two-
way cooperation because the case organisation is clearly in the role of a client and thus controls the relationship. The relationship with the biggest subcontractor resembles more the tactical partnership level, where learning and cooperation are involved and commitment is needed.

However, the relationship with the biggest subcontractor is clearly different than with the others. With the others, the work and cooperation is not developed as systematically as it is developed with the biggest subcontractor. For example, the development has been implemented when one of the subcontractor’s employees came to the case company’s location in Finland to work for some months. During this period, the subcontracting processes were developed.

The relationships are very interpersonal. Some subcontractors are used by many internal experts but some contacts and subcontractors are used by only one or a few internal experts. Partly this is because internal experts perform different processes, which require different kinds of knowledge and different subcontractors as well. But partly this happens because of personal preferences as to which company they want to use. This leads to a situation where the case organisation’s relationships with subcontractors are fragmented and hard to manage.

The depth of the relationship can also be analysed in terms of dependence on the subcontractors. The case organisation can be said to be dependent only on the biggest subcontractor. Losing that relationship and changing the subcontractor would require much work and effort, but even the biggest subcontractor is not totally irreplaceable. This means that the dependence is not substantial and the relationships could be closer.

All the relationships are client-driven, meaning that the case organisation controls the relationships. The relationships mostly are dyadic meaning that the only parties involved are the company and a subcontractor. The subcontractors do not use their own subcontractors. However, there had been an experiment about multi-level subcontracting, which is described in the Chapter 4.7.
The subcontracting relationship is dependent more on the case organisation than the subcontractors. This is because the case organisation controls case by case what is being outsourced and to which subcontractor. Only some tasks are continuously bought from the same subcontractor (e.g. monitoring services) and the tasks are ongoing in nature. This also helps the subcontractor to plan the required resources. With the other tasks it is more difficult to forecast the demand for the subcontractors and also for the case organisation.

The level of cooperation varies depending on the task. Some tasks are simple transactions while others need more communication and cooperation. As stated, the cooperation with the biggest subcontractor is closer. However, this can also be said to be a client-driven relationship and thus subcontracting.

Based on the findings the position of the subcontractors cannot be interpreted to be weak. The subcontractors are experts who are used to working for many companies and presumably are not dependent on one client alone. There was no clear price competition either, so the subcontractors did not have to perform the tasks without fair remuneration. To know how the subcontractors feel about their position in the relationship, they should be interviewed.

4.7 A cooperation experiment between subcontractors

From the interviews there emerged a cooperation experiment the case organisation had tried. In the experiment, a prior art study task was given for an external expert first to get into the task and describe it well. Then, the external expert would contact directly a search company that would do the actual data searching. Then, the search company delivered the results to the external expert, who had made a summary and a better report for the case organisation.

The experiment made possible many things. First of all, the quality of the work was better than if the search company had done the task alone. This is because the search company lacked patent competence and thus their reports were many times incomplete. The search results would also be more accurate as the
external expert would use time in explaining the case in more detail. If the search company would not understand the case deeply, the search results could be something totally irrelevant. The experiment would also be more cost-efficient as the search company charged much less than the external expert. The searching took from a couple of hours to a couple of days, and if these kinds of cases were done often, the experiment’s model could offer some cost savings.

Although the costs would not be a major decision-factor for the case organisation, they cannot be totally ignored. This experiment also proves that the costs do matter to some extent. As the job was not totally given to the more expensive external expert but rather the search company was assigned to do those tasks it can perform, a more cost-effective model was indeed looked for. However, the costs are not the primary factor for the decision-making and this runs against the transaction-cost theory. Other factors (mainly the quality and competence of the subcontractor) are much more important in the decision-making. These factors are discussed in Part 5.

4.8 Drivers

The main driver for the case organisation’s subcontracting is flexibility. This means that the company is looking for external suppliers to do tasks that cannot be done in-house due to lack of time or resources. The internal experts also make the decision whether to outsource or not based on how busy they are. If they have enough time, they might do the database searches themselves and not acquire them from an external party. This way the competence of doing a task also stays in-house as the internal experts maintain their skills in different tasks.

*If there is no one to do the task then we can let a subcontractor do it (Interview 3)*

Moreover the case organisation outsources for strategic reasons. The company does not want to perform all the tasks in-house as it would use up many more
resources. External subcontractors can thus more flexibly balance the workload than extra internal resources can. The external subcontractors are also available only when they are needed so if there is no work for them, there are also no costs. So instead of fixed labour costs, the company’s costs are partially variable as a result of using the subcontractors. This was mentioned as an important driver also in the theoretical literature.

*Internally we have a certain amount of resources. It is a question of prioritisation how we want to use our resources. If it is possible to do a lot of work with less internal resources by outsourcing some of the work, then we should do so.* (Interview 2)

The case organisation also acquires external expertise to support the work. Lawyers, patent attorneys and various technical experts are a great help in these specialised tasks. The internal experts do have this competence to some extent but their time is limited and thus the expertise must be acquired partly from outside. Also, not all the knowledge can be found in the case organisation, not even in the whole case company, so that knowledge is then purchased. Translation services are one form of external expertise which is not available in-house.

The case organisation also acquires so-called 'opinions-of-counsel' from external experts, which is a common practice in the IPR field. The idea of these tasks is to get an objective opinion about patent infringement claims. This means that the case organisation has to outsource these tasks to get an objective opinion, so some tasks cannot be done in-house. However, also in these tasks the internal expert prepares the case and reviews the final results. This way the control of the task’s execution still remains inside.

The case organisation’s drivers are clearly strategy-driven in the categorisation of Kremic et al. (2006), where they divided outsourcing into cost driven, strategy-driven and politically-driven categories. The need for flexibility and concentrating on the most important tasks can be included in this strategic category. The idea is not to make everything internally, which means acquiring external expertise and resources to complete all the tasks. The case
organisation does not outsource directly for cost reduction reasons. However, according to the theoretical literature, ultimately the idea of focusing on core the business leads to cost reductions. This is because the internal resources can be targeted to the most important tasks. In the long run, this creates cost-related benefits.

4.9 Risks

One general risk is that the work cannot be controlled so well when an external party does it, which has been mentioned already in the theoretical literature. This risk has been reduced by not outsourcing complete processes but only individual tasks such as finding data. Thus the outsourced tasks comprise only parts of the complete process. This keeps the control of the total process in-house.

*When somebody else makes the search for you, the feeling that the search has been made correctly should be somehow transmitted for you.* (Interview 1)

Another risk may occur when some tasks are outsourced on a wider scale. When these tasks are not done in-house, the competence for doing them decreases steadily. This is why some tasks are done in-house just to maintain competence regarding the task. The competence must be retained because some cases deal with confidential information and not all tasks in these cases can be outsourced.

The IPR function has a group which deals with Nokia’s patents and analyses them against other companies’ products. Both of these are public information and this makes it also easy to outsource. However, the PRD group analyses other companies’ patents against Nokia’s own products. This product information is confidential and that makes outsourcing complicated, even impossible. This is why the patent analysis in the PRD group’s processes has to be done in-house. Also the risk of losing the knowledge of doing certain tasks must be considered. In cases that deal with confidential information, tasks must
be performed in-house. This is why the competence cannot be lost by outsourcing some tasks and processes completely.

As in this case the outsourced tasks are services, no major investments are needed when setting up a subcontracting relationship as in the case of setting up complete factories for products. This applies to both parties as neither the company nor the subcontractors need to make investments. This decreases the investment risk. However, there are many hidden costs that must be taken into consideration.

First of all, there are costs for finding and testing subcontractors. This testing should not continue for too long because it prevents the other subcontracting relationships from getting closer. In other words, when tasks are given to yet another possible subcontractor in order to test it, they are always out from the old subcontractors that are already known to be good. Also, it is may not be worth trying to find the absolutely best subcontractor, as the optimum comes when the relationship has time to become closer. When a good subcontractor is found, it should be kept by giving it work steadily and not just randomly. This is a message to the subcontractor, that its work is appreciated and the relationship can be developed.

There are some costs for switching the subcontractor. It always takes time first to explain to the subcontractor what the company is looking for and how the deliverables have to be. As the company and subcontractor get to know each other better, it saves time and effort to no longer have to do that.

Based on the interviews, one risk is information leaking. In IPR work a lot of confidential information is handled and thus the subcontractors must have a non-disclosure agreement signed and otherwise held as a trusted party. There are also cases that deal with e.g. product information, and tasks of these cases are done mostly internally. There is also a risk that the subcontractor works for the case company’s competitors. This is quite natural because the subcontractors have specialised in certain branches of the industry in question. If some cases deal with competitors’ patents, the subcontractor would have a
chance to offer the work and information to the competitor. Such cases are very complex and also risky. The main responsibility rests with the subcontractor, who should not work for both parties. However, the case company should also check these things to lower the risk.

The company has also tried to decrease the risk relating to the subcontractors’ quality of work. Giving test tasks decreases the risk of the subcontractor’s task performance and quality to some extent. As all the cases are different, even this cannot give absolute certainty that the subcontractor is competent. The only way is to have a longer history with the subcontractor.

All in all, based on the research data and analysis it can be interpreted that the company does not depend on the subcontractors in a negative way. This means that most of the subcontractors could be replaced. In this case one subcontractor is much bigger than the others and not only some tasks but also one complete process has been outsourced to it. This does increase the risk if something goes wrong with this subcontractor. However, outsourcing always entails risks and without taking them, not much can be achieved. The question is more about not taking risks that can be avoided. Also, the processes would not be that well performed if there was not this closer relationship and effort to develop the task performance with the biggest subcontractor. This clearly shows that risk taking has paid off and without taking risks improved processes could not be achieved.
5 SUCCESS FACTORS IN SUBCONTRACTING

5.1 Introduction

In the previous part, the current situation of subcontracting in the case organisation was described. This chapter describes and analyses the success factors of subcontracting which were the results of the content analysis. In the content analysis, a data question was ‘asked’ of the research data, which was: “Which comments tell about the success and failures in subcontracting?” The answers to this data question form five success factor groups, which are described next. These success factors are the main groups of the content analysis and they describe what factors have affected the success of subcontracting in the past. They tell of things that are especially critical in the success of the subcontracting process.

This part brings out the success (and failure) experiences the internal experts have shared and described in the interviews. These experiences describe the things have contributed to the success and thus what should be considered in the future subcontracting development. These experiences can be further analysed in detail in the case organisation.

5.2 Knowing and trusting the subcontractor

The low number of subcontracted tasks restricted the possibility to check whether the subcontractor had learned from the previous task. The possible feedback for the subcontractor might have been taken into consideration but might also have been forgotten during the break from one task to the next. Because there were not many similar tasks (maybe just two or three in one year) the quality of work could not increase much by learning from feedback. Learning can occur when there are tasks that are repeated with the same subcontractor and the subcontractor receives feedback on what could have been done differently. The feedback is especially important to give and some subcontractor’s did ask for it. Of course, not all flaws can be corrected by
feedback. If the subcontractor simply cannot perform the task i.e. does not have the qualifications and competence to do it, even feedback might not help make the next time better.

Learning from past experiences gives room for getting to know one another, which can be called mutual knowing. This was one success factor that came out in the interviews. Mutual knowing (meaning that the company knows the subcontractor and their ways of working, and vice versa) makes high-quality subcontracting possible. The subcontractor knows what the company is after and the company knows the subcontractor’s expertise and ways of working.

Knowing relates also to the choice of the subcontractor. If there were good past experiences with the subcontractor, it was more likely used again. It is naturally easier to work with subcontractors whose ways of working are familiar to the internal experts. For example, if the deliverables always look the same, they are easy and fast to read through.

*Compared to my previous experience, then I guess people favour some companies. Because you know them and you get used to them, and the fact that a subcontractor does the work in a certain way.* (Interview 6)

However, this favouring should not be seen negative. It is only natural that when an internal expert gets to know a subcontractor and its working style, they choose to use that subcontractor more. The internal experts had some freedom in this selection. The only obstacle is that the company’s policy forbids using subcontractors without a formal agreement. Also the invoice has to be approved by the internal expert’s manager.

Knowing the company and its procedures was seen to be important for the subcontractors. The company’s business and technologies were seen to be especially important so that the subcontractor could perform the task properly. An understanding of the industry was also appreciated.

*But some cannot see in a wider perspective where something results from and why something would be worthwhile doing. Some others have this*
ability to see what the driver is, why we are doing something and what things should be taken into consideration, when carrying out these projects. (Interview 8)

Some subcontractors had previously worked for the case company and that is why they had a really good perception how the company's procedures and decision-making. These subcontractors might have worked for the company for many years. Working with these subcontractors was seen to be very easy. However, it was not seen as obligatory for a successful subcontracting relationship nor was it seen to be as an explicit decision-making factor for choosing a subcontractor. However, when the company knows the subcontractor, the quality of work is good and the daily cooperation goes smoothly, it is very easy to go back to that subcontractor again and again. So the actual fact might not have affected the decision-making but the consequences (meaning the good cooperation) did

Also knowing the company’s culture was seen to be beneficial and some interviewees suggested that it would be good to teach the subcontractors something about the culture.

5.3 Critical features in subcontractors

5.3.1 Quality & competence

Quality was the number one selection criterion when choosing a subcontractor. The patent attorneys were generally perceived as good quality subcontractors. They were perceived to be experienced and good in understanding patents. Some search companies, however, did not get such good reviews. Their quality seemed to vary and their competence was not at the expected level. Many internal experts had faced quality problems with these search companies.

Quality seems to be a synonym for competence in both understanding patents and technical knowhow. When the subcontractor knows the technical area and how to read patents, the quality of the work would be good. If the subcontractor
lacked competence, the reports were clearly lacking quality. So quality was directly derived from competence.

The problem was that the quality of some subcontractors’ work varied a lot. This was seen to be problematic because the internal experts could not know how good the results would be. This would also affect their trust in the results. Some internal experts were somewhat afraid of the result’s quality because they had to forward them – maybe even directly – to the internal customer. They might have had to check the results and the quality, and this would naturally take extra time. If the internal experts trusted the subcontractor and especially its competence, the results could also be trusted and a time-consuming check would not be necessary.

The quality was also perceived to depend more on the person than the actual subcontractor company.

*Generally in patent attorneys there is a problem that the level of quality varies a lot. It is very dependent on the person and what they do. (Interview 8)*

In some interviews the question emerged of whether to teach the low-cost and low-competence subcontractors patent knowledge. This could lead to better competence with lower expenses. However, it is unlikely that the teaching would be easy and that it would even lead to better patent knowledge. The competence has to stem from knowledge and experience. It can also be questioned whether it is the company’s job to train its subcontractors to a great extent. This is why the low-competence subcontractors should perform only the tasks they are capable of. This is recommendable also considering the importance of the decisions that are made based on the data findings and analysis the subcontractors make. It is absolutely crucial that the results can be trusted and they derive only from people who know what they are doing.
5.3.2 Other appreciated features

Above competence, there were several other features that were appreciated in subcontractors. These features included a responsive attitude, short response time and ability to work independently.

How the tasks were received by the subcontractors (i.e., their attitude) was seen as a factor that did not really affect the decision-making but, all in all, as a factor concerning how pleasant it was to cooperate with the subcontractor. This could be called responsiveness. This also was perceived as a factor concerning how fast the subcontractor replied. This can be seen as a different factor from just clear response time. Responsiveness was a clear sign of a good attitude towards the company and a willingness to undertake good customer care. Normal response time however was a consequence of how much the subcontractor had free capacity, meaning employees to perform the given task.

Response time was partially seen as the company’s own fault. When the same subcontractors were used more and more, their capacity ran out and the response time started to get longer. This was a clear signal that other subcontractors should be used in these cases. This problem occurred not because there were not enough subcontractors but maybe just because all of them were not utilised.

The workload that we have is increasing. Which means that if we are using the vendors the same ways as we were using them before, now we are just using them more. So using the same vendors, we are now just using them more and more and more. And the response time has started to go down. (Interview 4)

However, there was some variance between the processes as to whether there were enough subcontractors. Some did not have that many tasks to outsource so the subcontractors could not even be overloaded. In some processes only a couple of subcontractors were used although they knew other possibilities, but the others were for some reason not used. This planning could be easier with more carefully planning concerning which subcontractor to outsource which
tasks. And for tasks that happen quite often and take some time, there could be a list of possible subcontractors in case of overloading.

The ability to work independently was also mentioned in the interviews as an appreciated feature. The subcontractor would work independently, find out about the case and inquire if he had any questions or trouble in understanding or finding information. This was valued and seen as easy for the internal experts, as they could trust that the subcontractors were doing what they were supposed to do and they did not need any guidance for the task. It was not a problem if the subcontractor would call back and ask about some details – quite the opposite. This was clearly seen as a sign of independent work effort. The subcontractor would show that he is really trying to understand the case and perform the job well. Conversely, if the subcontractor would not take the initiative and go to work, it was burdensome for the internal experts to guide them through the whole process. The real value from the subcontractor was very little if the internal expert would have to use a lot of time for guidance. Then it would have been easier and cheaper to do the task in-house.

_ I get more stress if I waste two days of working time because I need to start focusing on a task I have outsourced for someone else. (Interview 8)_

It was very interesting that nationality seemed explicitly not to play a big role in choosing the subcontractor. Some interviewees thought that of course it would be better to outsource to a local company that you can visit in person, and in general face-to-face conversations were seen as useful. And if the subcontractor would be far away, even on the other side of the world, it could cause language and cultural problems. But these problems were not seen as that important that they would affect the decision of which subcontractor to outsource a task. The number one criterion for the selection was still competence and quality of work.

5.3.3 Price

Some interviewees used inexpensive search companies because they felt that the price of expert companies was too high. So they were clearly thinking of
costs and that was a factor for making the decision of which subcontractor to use.

Well, there was this one expert company, but I have felt their prices always to be so high that I have never used them. (Interview 6)

The dominant opinion still was that the price did not matter that much. If the work would be first class and the cooperation easy, they could pay for the external expert to take care of the task. The costs were seen as a problem if the work was not of good quality and the subcontractor did not know what he was doing. But the costs for the experts were seen in many interviews as very high, especially in the case of US-based external experts like lawyers.

Costs from US law firms are extremely high. And they charge you for every minute they use for the project and for phone calls and everything. (Interview 3)

Probably due to the nature of expert work, the higher price was accepted. Also it mattered that a manager needed to accept the costs before the internal experts had permission to order anything from a subcontractor.

In general, the decisions were made based on the results of the work, not the costs. The internal experts saw that the results had to be reliable and so they were willing to pay for the quality. Some interviewees thought that it could be possible to send a simple task to a cheaper subcontractor but still mostly relied on their quality subcontractors in these cases.

If things go easily and the task is taken care of... so I get something for my money, then it (price) is not an issue. (Interview 8)

5.4 Definition of tasks

The outsourced tasks are generally just part of the whole process. Usually the internal experts first take time to understand the case and then decide the further actions and which of the tasks will be outsourced. They also do the final checking and possible analysis on importance to business themselves. The
subcontractor might not be aware of the whole process and to what kind of a broader project their tasks are related. When the subcontractor does not know what kind of a larger project the individual task is part of, it might cause difficulties when making choices about what is relevant for the case and what is not. This makes the proper defining of the task for the subcontractor important.

*We have to say and give the frames, explain quite accurately the task, so that we get what we want. (Interview 8)*

The importance of defining the task properly came out in many interviews. The tasks were defined usually by email or calling the subcontractor. The way depended on where the subcontractor was located. For a Finnish subcontractor it was easier to call. Due to language and also probably because of different time zones, foreign subcontractors were usually reached by email.

### 5.5 Effective use of internal experts’ time

#### 5.5.1 Concentration on the most critical tasks

The internal experts felt very busy and thus they wanted to optimise their work effort to the tasks that needed their skills most. The decision of what to outsource and what to keep in-house was made first of all based on how busy the internal experts were. If there was time, an internal expert could do database searches, for example. Mostly the situation was that the internal experts were busy and they had to rely on external help to get their work done. In these kinds of situations the decision of what tasks to outsource was mostly made based on what the subcontractors could do and what they usually had done for the company. These tasks were very much dependent on the process in question but generally were mechanical tasks such as database searches.

*Using subcontractors substantially makes my work easier because there are tasks that I would have to put so many hours into that I could never do my work at the same pace. (Interview 9)*

The correct allocation of tasks between the internal experts and subcontractors was seen to be important so that the internal experts could concentrate on the
most important and demanding tasks. Some interviewees pointed out that many of the subcontracted tasks are actually quite mechanical work, which is not seen as interesting and challenging.

At least I feel that at the moment I do not have time nor is the task that interesting. I don’t enjoy doing the searches so also that is why I don’t do them. Because when you have enough things to do, you leave something out. (Interview 8)

5.5.2 Tools for effective use of time: templates and standardised reports

For some tasks order templates were used to formalise the ordering of the task. Templates were appreciated as they helped the internal experts to save time. The templates included information on what kind of services the subcontractor had to offer and what kind of result and in what form the internal expert would want. However, templates were used only with the biggest subcontractor. The templates were said to help the ordering process also because all the necessary information was in the template and so it would not be forgotten.

Standardised result reports were also mentioned in the interviews. With the biggest subcontractor the reports were standardised to some level and this was seen to be very beneficial. The reports were easy and quick to read through, as the answers were always in a certain order and the most important things were highlighted. Also the enhancement of these reports continues in the case organisation and internal experts have taken the initiative to participate in this development work. The easy use of the reports is seen important and helpful for one’s own work.

It helps a lot when there is a standardised report that they deliver. There is a ready-made template, where they fill in the results. (Interview 9)

5.6 Cooperative way of working

A closer cooperation with subcontractors seemed to be more appreciated and effective. One interviewee mentioned an intensive workshop with the subcontractors where they went through thousands of patents within a couple of
day’s time. This workshop was mentioned as a successful case of subcontracting. Another interviewee mentioned a similar case in which the subcontractor showed high commitment when he was travelling with the company’s staff to several locations due to one task. This commitment was valued highly. The closeness of cooperation varied between the different processes and cases.

Sometimes we do more cooperation and I notice something and the patent attorney notices something. So it goes on like discussing and combining and so on... Sometimes the patent attorney does it very independently and then sends me a suggestion. Or then says that he understood it this way that we should proceed from here. (Interview 8)

One part of the close cooperation was interaction during the task. This dialogue between the company and the subcontractor contact persons was seen as essential for the success of the task. Dialogue happened also when the internal expert confirmed that the subcontractor had understood the given task correctly. This means that the task was sent to the subcontractor and then he would reply and relay his thoughts about the task. So a clarifying conversation made the task performance better. This kind of conversation and confirmation of understanding could also make the internal expert feel better as he can be sure that the results will be what he was looking for.

I define it first and then they send it back that here are the key words and if they figure out some more, then I can figure out more. So it goes one round, which is good. So I can see from there, what is their thought on that before they begin to do the actual work. (Interview 8)

However, there were clear obstacles to the communication. It always takes time to make the necessary phone calls or sending the email and the internal experts felt they were too busy to do this. This is why the communication was sometimes skipped. Bad communication could cause incorrect results because the task was not understood correctly.

...This could be improved like setting up a meeting in the middle or before the final delivery day and things like that. But again we are talking about the real world, and people are busy and they travel and might not have the opportunity to check what is going on. (Interview 5)
The internal experts did recognise some actions concerning how to make the outsourcing more successful, but were too busy to always perform these actions. For example, an internal expert said that communication with the subcontractor would confirm that the subcontractor has understood the task but that it is quite burdensome to always check the stage of the work and where the subcontractor is going. Although the dialogue takes time, it is seen as very critical for the success of the task.

5.7 Summary and discussion

The important factors in subcontracting can be divided into five categories. Some conclusions are drawn from these success factors, which are:

1. Knowing and trusting the subcontractor
2. Features of the subcontractor
3. Definition of the task
4. Tools for effective use of internal experts' time
5. Cooperative way of working

First of all, the selection of a suitable subcontractor is very critical in this kind of complicated expert work. The competence of the subcontractor was seen to be the most important criterion when choosing the subcontractor for a certain task. The work results are used for major business decisions and thus it is very crucial that the internal experts can trust the quality of the work. High quality can only be achieved when the subcontractor has enough patent knowledge and experience.

Also the interaction with the subcontractor during the task is important. Quite rarely the tasks were ordered with only one contact but understanding the task and delivering suitable results required more interaction with the subcontractor. Interaction takes time but is critical for the success of the subcontracting because the expert tasks are complicated.
Closer cooperation was highly appreciated by the internal experts. Also knowing the subcontractor was seen important. These suggest that deeper relationships bring more value for the company. Knowing each other is only possible when the relationship has the opportunity to get deeper. This is possible when there are enough outsourced tasks for a subcontractor and they are repeated. When repeated tasks take place, the learning can occur through feedback. This is how the processes get better and the quality of work increases as the expectations are clearer for both the parties.

The interviews also prove that trust is absolutely crucial for a subcontracting relationship. This is particularly the case in expert services and in IPR work. The expert and his competence are trusted and the results are used in major decisions that can have later effect the business. If the company for example receives information that they are not infringing on a patent and can continue to develop a product, they will do so according to the expert’s opinion. However, if the expert would have done the task hastily and thus would have done poor quality work, the consequences might be major and the damages could be calculated in the millions. This is one risk the company is taking when trusting in subcontractor’s work.

To find more about the level of trust, the subcontractors should be interviewed. The subcontractors could also have beneficial ideas and insights on how the relationships could be developed. A meeting with the subcontractors would thus be very much recommended.
6 CONCLUSIONS

6.1 Summary of the study and results

The purpose of this study was to describe and analyse subcontracting in an expert organisation. The study was a qualitative case study and the data was collected primarily by focused interviews. The main research question was *how to use subcontracting in a way that best supports the case organisation’s work.*

The subquestions are:

1) What is the current situation of subcontracting in the case organisation?
2) How to make the make-or-buy decision?
3) How to implement the subcontracting?
4) How could the subcontracting situation be developed?

The first subquestion was answered in Part 4, where the current situation of subcontracting was described. The resource-based view provided the answer to the second subquestion in the theoretical part of the study. The third subquestion was answered by the success factors introduced in Part 5. Finally, the fourth subquestion was answered in Chapter 6.2, where proposals for action for the case organisation are presented.

In general, the subcontracting situation in the case organisation has evolved quite well during the past couple of years. The good experiences from subcontractors have led to their increased use and the relationships have started to get deeper. The PRD group has gathered a good list of subcontractors and has already built a closer relationship with the biggest subcontractor. One feature of the case is that the relationships are quite fragmented, meaning that all the internal experts partly have their own subcontracting contacts. This is partially because the internal experts deal with different processes and thus need different kinds of external help but still some focusing on the use of subcontractors could be possible. The fragmented relationships have led to a situation where the number of subcontractors has
grown and is still growing. This growing group of subcontractors has proven to be difficult to manage, and change is necessary.

The fragmentation of relationships could now be unified by defining clearly what tasks to outsource and to which subcontractors. Spreading information about the successful cases and what tasks and from which subcontractors the other internal experts are acquiring at the same time would make the management easier. Also experiences about these subcontractors should be reported and stored to a formal place. In addition to this information storage, a contact person could be named to be responsible for observing and developing the subcontracting relationships and practices. These experiences should be considered when creating guidelines for subcontractors to use.

The breadth of outsourcing in the case organisation resembles out-tasking by Ellram et al. (2008, 157-158). In this model the control of the work remains in-house but the risk of not being able to measure performance is lower. It could be questioned whether it be more efficient to either outsource the whole IPR function or smaller tasks. However, the company’s strategy is not to outsource the whole function. The used model is thus a compromise of not completely insourcing or outsourcing. The idea is that the control of the whole process does remain in-house but some external parties can still be used to help external expert’s work. The model has proved to be quite efficient in this kind of a patent service environment. However, it also requires effort in order to succeed.

There is great potential in working with external subcontractors in the IPR services field. The changing operational environment requires many open eyes and ears to observe all the possible patent risks, and for this objective subcontractors can be a great help. The subcontractors could also be rewarded if they find potential risks that the company has not noticed. The development of the current subcontracting situation can create significant advantages for the case organisation. Next, the development proposals are discussed in detail.
6.2 Proposals for action

6.2.1 Process for subcontracting questions

The case organisation should now create guidelines for subcontracting. Before this, the correct order for the important decisions must be considered. It is significant to make the decisions in a specific order because the first question always forms the basis for the whole process. A proposal for the order of subcontracting questions is presented in Figure 9. The process describes three important questions the case organisation needs to answer in order to form a clear strategy for subcontracting.

Figure 9 Subcontracting questions

First, the company should decide which tasks it will do internally and which to acquire from external parties. After this, a suitable subcontractor should be found for the outsourced tasks. The third step is to decide how the subcontracting should be implemented in practice. Implementation of the subcontracting in this order is highly important, especially that the task is chosen first. This is to ensure that the demand for the subcontracting stems from the company’s real needs. However, all of the three questions are interrelated and should be considered together. The first and third subcontracting questions were presented in the theoretical part of this study. The first question is a clear make-or-buy question. The selection of a suitable
subcontractor was emphasised by the empirical evidence and thus deserves attention.

**Table 3 Proposals for action**

<table>
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<th>PROBLEM</th>
<th>PROPOSED ACTION</th>
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<tr>
<td>Disorganised situation</td>
<td>Creating guidelines, what to make and buy</td>
</tr>
<tr>
<td>Management of subcontractors is difficult</td>
<td>Focusing the group of subcontractors</td>
</tr>
<tr>
<td>Difficulties with quality</td>
<td>Deeper relationships with fewer subcontractors; using only high quality subcontractors for demanding tasks</td>
</tr>
<tr>
<td>Experiences and information do not spread throughout the organisation</td>
<td>Database for experiences and follow-up of cases</td>
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The proposals for action are now introduced in this order and they are summarised in Table 3. First, how the company should make their make-or-buy question is discussed. Secondly, the selection of subcontractors and the implementation of subcontracting are analysed. The final step is to summarise the theoretical discussion and empirical evidence and to present a subcontracting model for the case organisation.

**6.2.2 Creating guidelines, what to make and buy**

As there are no clear guidelines as to which tasks should be outsourced and which should be kept in-house, a clear strategy would make the operation easier. The decision should be considered together with the internal experts as subcontracting affects their daily work to a great extent. This would presumably increase the commitment for the decisions. At the moment, the internal experts can quite freely decide which subcontractor to turn to. The most explicit barrier is a contract which has to be signed with the case company before the subcontractor can be used.

To some extent, make-or-buy decisions in the case organisation could be based on the resource-based view and especially on the idea of core competence. The case organisation should define the core activities that should be done in-house. The support activities (e.g. searching for data) could then be outsourced to chosen subcontractors. It is also important to keep the control of the work in-
house. IPR work entails a lot of confidential information, e.g. about the upcoming products, that must not leak outside. If there are tasks that entail this kind of sensitive information, they should not be outsourced to make sure that the information stays inside the company. This is why the idea of core competence cannot work totally in this kind of IPR organisation.

In contrast to the resource-based view, the transaction cost theory suggests that companies should outsource the activities that are more cost-efficient to perform outside, however ‘core’ the activities would be. So the decision-making is based on total costs and not on the substance of the tasks. The expert organisation context in this study clearly does not support this view as an answer to the make-or-buy question. This study supports the idea of core competence, where the most important tasks are separated from the supportive ones. Also this study suggests that after this separation the implementation of the subcontracting can be developed to be more efficient. The real value comes from doing only the critical tasks and using subcontractors who have specialised in the tasks that the company will not perform internally. However, this is the case only for the make-or-buy question, which is perceived as an internal decision. The implementation of the ‘buy’ option requires more relational considerations and is discussed in the next subchapter.

As the subcontractors are mostly external experts, outsourcing all the possible tasks would become very expensive. This fact should be taken into consideration when deciding on what to outsource, if there is internal expertise available. However, when thinking of costs, total costs should be considered and not only the direct production costs. Also keeping a high expert in-house is expensive. On the one hand, external experts do not require remuneration when they do not have work, but on the other hand, when they do have work, the costs are much higher. So finding a balance between internal and external experts must be considered.
6.2.3 Focusing the group of subcontractors and developing deeper relationships

The group of subcontractors has constantly been growing, and controlling this group has proven to be difficult. Before possibly designing any software tools for the following of the situation, it is recommended that a closer look at the group and a decision be made about which subcontractors the case organisation wants to cooperate with more closely and which should be kept on the list only to be on the safe side.

The proposal would be to form a clear group of primary subcontractors that would cover all the frequently outsourced tasks. These subcontractors would be the primary contacts when a task is sent to an external party and not done in-house. The ideal would be that each task would have one primary subcontractor that could always take care of the task. This way the subcontracting processes and execution of tasks would have to be developed only with one subcontractor. This would minimise the time and effort put into the development because it would not have to be done with many subcontractors. This proposal would also increase the dependence on fewer subcontractors and require commitment from the case organisation. However, this commitment is seen as necessary if the subcontracting processes need to be developed.

The proposal to focus on a group of subcontractors is supported by the relational view (Dyer & Singh 1998), which clearly recommends closer relationships with fewer suppliers. This is a direct contrast to Porter’s (1980) suggestion to use more alternative suppliers and not to increase dependence on fewer suppliers. However, the relational view suggests that it is this dependence on fewer suppliers which makes the suppliers commit to the relationship and its development. Thus the relationship cannot become closer if there are no clear signs of dependence and commitment.

Naturally, internal experts are experts in their work and would like to choose the best possible subcontractor. Their criteria are still different than the whole group’s best interest would be. This is because the internal experts are
interested in finding the best subcontractor to match their personal work. This leads to a situation where the subcontractor group gets constantly bigger and controlling it becomes harder. Without proper coordination and guidelines, the group will constantly continue to grow. The case organisation’s interest would be in a smaller group of subcontractors which would be used more often. Presumably this would not decrease the quality of the work because the internal experts still would be using suitable subcontractors for each task. But wherever one subcontractor could be used instead of many, it is recommended that only one be used.

The discussion before the decisions should include the whole group so that all internal experts can express their opinions and affect the decisions. The good experiences that the internal experts have are valuable and they form the very basis for the decisions. Also the case organisation could not cope with only one subcontractor but would still need many subcontractors because the work tasks and required competence vary and only one subcontractor cannot deal with all the tasks.

The quality of work has varied when different subcontractors have been used. By choosing a clear focused group of subcontractors and developing the cooperation with them, the quality of their work would be known and the results would be as expected. This way the results could be trusted. The choice of which subcontractors to include in this focused group should be based on competence, as the work requires special expertise. This way the internal experts do not have to use too much time in reviewing the results and the subcontracting becomes more efficient.

A focused group of subcontractors is also supported by the fact that IPR cases deal with confidential information. These kinds of cases need trust in the subcontractor (i.e. smaller supplier risk) and only deeper relationships can offer enough trust. Thus deepening the relationships with a smaller group of subcontractors is a good basis to start building trust. According to the presented relational view trust can be acquired when the client invests in the relationship
with the supplier and thus increases the dependence on the particular supplier (Dyer & Singh 1998, 675).

After selecting internally some primary subcontractors, discussion with them might provide valuable ideas on how to develop the relationships and quality of work. At least it would confirm how deep a cooperation the subcontractors are willing to engage in with the case organisation. Some subcontractors might not even have an interest in becoming a closer partner as this increases dependency on the client.

In order to make the development of the subcontracting possible, also the subcontractors should receive feedback for their work. This way they can improve their performance. When the tasks are spread to different subcontractors, each subcontractor might just get a task every now and then. But when the stream of tasks would be directed to a more compact group of subcontractors, the learning from the past experience would be more intense. When each subcontractor gets more tasks, it can develop through them and also better understand what the company is looking for.

Deeper relationships were proven to be more successful in the interviews and thus they should be pursued, as they provide more value for the company. There needs to be a clear decision about which companies to start the real relationship development with. The criteria for the decision-making could be based on the findings of this research. At least a strong emphasis on competence, good quality of work and trust should be taken into consideration. It is essential that the internal experts take part in this discussion and decision-making, as subcontracting is a very important part of their work and the decisions affect their work a great deal. Their participation would also increase their commitment to the decisions.

6.2.4 Information sharing to support decisions

To inform the whole case organisation about possible new subcontractors and to share good and bad experiences, a clear channel should be provided,
whether in the form of a contact person or software tool. Of course the software does not have to be more complicated than a common file. More importantly, the internal experts should be encouraged to bring out their experiences about the subcontractors and subcontracting cases. One suggestion would be to appoint an internal contact person for each subcontractor. These contact persons would then gather the experiences about a certain subcontractor and manage the development.

A common information sharing channel would also make sure that management knows which companies are used, how often and what are the experiences from them. This kind of information sharing was done partly along this research project in the case organisation. However, the experience sharing and information gathering should be more consistent and continuous. This was also desired by the internal experts in the interviews.

6.3 Contribution of the study

The IPR issues are very important for high-tech companies and many companies perceive them as core or at least core-supporting activities. This is why they will not be outsourced totally. However, within these activities are smaller supporting tasks which can be performed by an external party. When previously only supporting activities were advised to be outsourced, nowadays also activities closer to core activities can be performed by an external subcontractor. However, when outsourcing these activities, the subcontractors must be trusted and this requires deeper relationships. As well, this study proved that deeper relationships bring more value in a context where the outsourcing approaches the core activities.

This case also proves that companies are quite eager to outsource and external parties are searched for to perform activities which were previously done in-house. This opens many possibilities for smaller companies who can specialise in these areas and base their business on this specialisation. Additionally, it makes it possible that the client gets the best possible service without having to
concentrate on that. Outsourcing might be a target for activities and tasks that can be performed internally but for some reasons will not be. However, if all the outsourced tasks would be insourced e.g. done in-house, the group would need to multiply its internal resources.

The case also proves that other drivers besides cost savings are more important in an expert organisation. The driver in this case has been the desire to, on the one hand, increase flexibility, and on the other, to keep internal resources as small as possible. Compared to production outsourcing, price is not the primary decision-making criterion in an expert organisation. The competence of the subcontractors rises to be the number one selection criterion.

The problem for subcontractors in this kind of service work is that they cannot plan their capacity if they do not have any information on the coming tasks. From the company’s point of view, subcontracting is used for flexibility and this is not achieved if there has to be a planned steady flow of work to the subcontractor. This is especially the case in this kind of work where the demand varies heavily and it cannot be very well foreseen. The loading variance should be studied in more detail and the subcontractors interviewed to see how this problem could be solved and what the subcontractors feel about it. It could be the case that the subcontractors do not see it as a big problem and they have good mechanisms for adjusting their capacity.

The success factors found in the empirical evidence can now be attached to the theoretical discussion and they are found in Figure 10. This forms the model for subcontracting for the case organisation. The theoretical discussion provided the basis for the make-or-buy decision, which could be based on the resource-based view, where competence is the focal point. This fits well the expert organisation context. The empirical evidence provided answers to the questions of how the relationship should be and which subcontractor to choose. The internal experts have shared their success and failure stories, which attributes are important for good subcontractors and what kind of cases have succeeded
in the past. These experiences and found success factors can now be used in decision-making.

The most important finding from the empirical evidence was the importance of close cooperation. When the subcontractor is known, there is trust in the relationship, the way of working is cooperative, and the work will give the best results and value for the company. This finding should be the basis for further development in the case organisation.

**6.4 Reliability, limitations and directions for further research**

Compared to quantitative studies, qualitative studies have different concepts of defining reliability of the study. In a qualitative study the reliability is more about the trustworthiness of the research process. This is why it is crucial to report the research process in detail. (Eskola & Suoranta 1998, 211) In this study the
research process has been described as accurately as possible to increase the reliability of the study and it is found in Part 3.

Saturation was used as a sign that enough interviews had taken place. Also Eskola & Suoranta (1998, 62-63) mention this method as a good indicator of when enough data has been collected. They explain that the basic idea of saturation is that some amount of data is enough to reveal the basic theoretical pattern. In this study nine interviews were seen to be enough because the last interviews started to repeat the same comments that the previous interviewees had mentioned. The new interviews were thus not seen as necessary.

The data analysis was made in a systematic way and the content analysis process is described in Chapter 3.3. Additionally, the description of the empirical situation, which was done based on the analysis, was reviewed by four internal experts. This made possible the elimination of factual errors.

Objectivity is one part of the reliability of any study. Eskola & Suoranta (1998, 17) emphasise that objectivity in a qualitative study is actually about recognising the subjectivity of the researcher. In this study the researcher had not worked for the case organisation before the study. This way the researcher did not have any presumptions and could approach the situation from a fresh perspective. One goal of the study was to get an outsider’s opinion about the situation and this was achieved.

This study covers only one case situation and thus cannot be widely generalised to other cases. Intercompany relationships and networks are an extensive field of study and subcontracting is only one part of it. In this case making exclusions was not seen as very difficult because the case organisation’s subcontracting relationships were quite clearly definable and the organisation did not have other kinds of relationships that could be confused with the actual subcontracting relationships.

The study has concentrated solely on the company’s viewpoint. For further studies it would be interesting to include the subcontractors’ views and compare
them. This kind of comparison could reveal the reasons behind some problems in the subcontracting relationship, as both parties see the situation differently.

It would be also interesting to know if there is a clear logic about which kinds of relationships fit in which situations. Also it would be interesting to study what makes good subcontracting relationships work. In this study there were some ideas on how the patent service subcontracting works in an expert organisation. However, these results cannot be generalised widely. Also it would be interesting to study a situation in which a company’s whole IPR function has been outsourced.
REFERENCES


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Other references

Nokia web pages
http://www.nokia.fi/nokia (27.2.2008)

National Board of Patents and Registration of Finland

Nokia’s internal presentations and documents.
# APPENDIX 1: INTERVIEW TABLE

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APPENDIX 2: QUESTIONS FOR FOCUSED INTERVIEWS

1. PERSONAL DETAILS & WORK
   a. Work history in Nokia and in PRD?
   b. Current job responsibility areas?
   c. Description of the job: what is it about?

2. INTERNAL TASKS
   a. What tasks are done inside?
   b. What things would you never outsource? Why?
   c. What do you think that you and your team do the best? Which is your biggest competence area?

3. SUBCONTRACTORS & COOPERATION
   a. How much in general do you cooperate with subcontractors?
   b. What tasks are outsourced?
   c. What are the biggest problems in subcontracting?
   d. How would you describe the subcontractors that are easy to cooperate with? Can you name any companies?
   e. When you choose a subcontractor for a task, how big an issue is money?
   f. When you outsource a task, how well can you keep up with what the subcontractor is doing?
   g. Do you have the feeling that you are controlling the cooperation?
   h. Do you trust your subcontractors? What about the results?

4. SUBCONTRACTOR COMPANIES
   a. On what basis do you decide which company to outsource to?
   b. Do you have a clear vision of it or do you often think about it for a long time?
   c. Can you describe each of the companies you have used?
   d. Do you have enough subcontractors?
   e. Do you always find a suitable company when you have a task to be outsourced?

5. CASE EXAMPLES
   a. Could you describe an example of a good case / one that succeeded? Why did it succeed?
   b. Could you describe an example of a bad case / one that did not succeed? What went wrong? Why did it fail?

6. IDEAS FOR DEVELOPING THE SUBCONTRACTING
   a. In your opinion, how could the subcontracting be developed?
   b. Who would know more about subcontracting?