Deciding on Sourcing Option for Hosting of Software Applications in Organisations

by

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Abstract

Software applications are of great importance in organisations, and performance of an organisation depends on how hosting of software applications are organised. This thesis deals with the question: Why and how organisations decide on specific sourcing options for software applications hosting. The thesis describes and explains sourcing decision-making processes made in the Swedish Post (MeLo) and Jönköpings Kommun (the municipality). MeLo’s sourcing decision resulted in outsourcing of hosting, and the municipality’s sourcing decision resulted in internal sourcing of hosting. Both organisations were distinguished by a decentralised structure to a great extent and showed a huge diversity in software applications used. The sourcing decisions resulted in a change to a more centralised hosting of software applications. The thesis is a retrospective case study based on semi-structured interviews and documents analysis. Concepts from the resource-based view and factors described in sourcing literature are used to analyse these sourcing decisions. From nine theoretical initial propositions 28 propositions are developed about why and how sourcing decisions are made. From these propositions, relations are described and some conclusions are presented about why and how sourcing decisions are made. The main conclusion is that maturity level regarding software applications usage seems to influences the start, the process as such, and the outcome of a sourcing decision-making process. This is explained as the more mature the organisation is regarding usage of software applications the more proactive decision-makers are in the sourcing decision. It is also identified that involved factors can be either influencing or justifying, and it is found that control of software applications usage influences the start of a sourcing decision to a high extent. The findings suggest that a sourcing decision-making process can be described as an irrational decision process that aims at increasing commitment on an already made decision. The study suggests that the less mature and more decentralised the organisation is the more reactive and the stronger influence the need to increase control over software applications have in a sourcing decision-making process.

This work has been supported by Jönköping International Business School, Jönköping University.
Foreword

Information systems development is a discipline within the faculty of arts and sciences at Linköping University. Information systems development is a discipline studying human work with developing and changing computer-based information systems in organisational settings. It includes theories, strategies, models, methods, co-working principles and tools concerning information systems development. Different development/change situations can be studied as planning, analysis, specification, design, implementation, deployment, evaluation, maintenance and redesign of information systems and its interplay with other forms of business development. The discipline also includes the study of prerequisites for and results from information systems development, as e.g. studies of usage and consequences of information systems.

This work, *Deciding on Sourcing Option for Hosting of Software Applications in Organisations*, is written by Björn Johansson at Jönköping International Business School and Copenhagen Business School. He is also a member of the research groups VITS, KiO, and IFIP 8.6. He presents this work as his Ph D dissertation in Information Systems Development, Department of Management & Engineering, Linköping University.

Linköping August 2007

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Acknowledgements

Writing a thesis could be seen as a walkabout. In the beginning your footprints head different directions and then suddenly they head a certain direction - for a while. This is probably - to a great extent - what research and writing a thesis is about. Now, I have reached a goal and this, could - to some extent - be seen as done by myself. However, if you don’t have good guidance during your walkabout, you probably end up with walking around in circles, completely lost.

My three supervisors Professor Sven Carlsson, Professor Göran Goldkuhl and Assistant Professor Ulf Melin have all in different ways made my walk doable. Sven has been an excellent guide in where to go, what to do and why, Göran and Ulf have also provided comments making me walk in the right direction. The respondents from the organisations under my magnifying glass for the thesis have been important. Thanks for letting me follow your footprints in your decision-making processes. Without your input my footprints had not been that clear. The clearness is also a result of the language check from Assistant Professor Björn Kjellander.

I really want to express my thanks to all of you inside the Informatics department at JIBS, the research networks KiO and VITS as well as other researchers outside these groups that have helped me reaching this goal. I do not mention you by name but those who have been guiding me in different directions know. I also had the possibility to do a “walkabout down under” and for that I am grateful to Professor Graham Shanks. The time in Australia at Monash University was marvellous and useful for my finalisation of the thesis, thanks a lot! The final steps have been made at Copenhagen Business School, and I want to thank Professor Niels Bjoern-Andersen for trusting me and giving me the possibility to end this walkabout there.

However, this thesis had not been possible without the support from my family and the encouragement they have giving me by just being present, and letting me be me. Let us continue our walkabouts!

Jönköping, August 2007

Björn Johansson
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Part I – Introducing the Study of Sourcing
Decisions regarding Hosting of Software Applications

Chapter 1 introduces the study by giving an introduction to the subject, the primary research question and related sub-questions. Chapter 2 outlines the points of departure from which the research starts and then Chapter 3 describes the research approach and methods.

Do the hard jobs first.
The easy jobs will take care of themselves.
(Dale Carnegie)
Chapter 1 - Introduction

This thesis analyses the decision-making processes involved when organisations decide on sourcing options for hosting of their software applications. The aim of the thesis is to describe and explain why and how organisations decide as they do in sourcing decisions. The first chapter elaborates on why this thesis is of interest. It does so by describing the background of the subject, the primary research question and related sub-questions. In addition, it discusses expected contributions and gives initial definitions of key concepts. It also gives an overview of the subsequent chapters in the thesis. The chapter ends with a summary.

1.1 Why Study Sourcing Decisions?

Decision-making regarding information and communication technology (ICT) in the form of sourcing decisions as well as management and governance of software applications are all issues that need high attention in organisations, which is revealed in IT Governance Institute’s (ITGI, 2004) 2004 report on the top ten ICT-related problems. Also the Chief Executive magazine (CIO.com, 2004) contend that 30 per cent of top challenges facing chief executive officers (CEOs) directly involve ICT. A study of these top challenges shows that these are closely related to how organisations host their software applications. One issue for executives to consider is whether the organisation should keep, albeit reorganising, hosting of software applications internally, or outsource hosting to an external provider. If the organisation already has outsourced, the issue instead is if it should bring back hosting (insource). These three directions, outsourcing, insourcing, or internal sourcing, is what decision-makers decide on in a sourcing decision. There are several reasons that may validate a study on sourcing decisions, but I would say that the main reasons are as follows: A lack of research, a sourcing decision affects the entire organisation, and sourcing decisions affects organisational performance.

A lack of research that focuses on the process in sourcing decisions.

It can be argued that studies with a focus on the process in sourcing decisions are sparse. According to Boonstra (2003) as well as Broadbent and Weill (1997) there has been little explicit research into the process of how managers and organisations decide when buying, developing and/or implementing
software applications. Dibbern, Goles, Hirschheim, and Jayatilaka (2004) have made an extensive survey and analysis of outsourcing literature. This survey reveals a lack of research on the actual decision-making process. It can be stated that there are only a few studies on sourcing decisions and especially studies in early phases of a sourcing decision-making process. The review indicates that studies about sourcing decisions are sparse when it comes to why organisations start a sourcing decision as well as how decision-makers in organisations make sourcing decisions. Simon (1977) claims that research on decision-making too often focuses on the outcome of the decision-making and that this gives the wrong impression of decisions. He states that research focusing on the process and all stages of decision-making would be more fruitful. The same conclusion is made by Hickson, Butler, Cray, Mallory and Wilson (1986), March (1994) as well as Elbanna (2006). The presentations about research on sourcing from Dibbern et al. (2004) as well as Gonzales, Gasco and Llopis (2006) support that there is a lack of research on how sourcing decisions are made. That there is a lack of research does not alone motivate this thesis, but it does so in combination with the second and third reason.

A sourcing decision affects the entire organisation.

Research on decision-making is of interest since decisions are continuously made in organisations (Boonstra, 2003) and will always be of interest since the context of the decision varies. According to Elbanna (2006) research on decision-making include two directions, content research and process research. Content research deals with issues of strategy content while process research deals with the process by which a strategic decision is made and implemented and the factors which affect it (Elbanna, 2006). Elbanna argues that it is fruitful to conduct more process research, especially when it comes to strategic decision-making. The reason for that is that there is a lack of knowledge of how different factors influence a decision-making process. It can be stated that sourcing decisions are strategic decisions, which means that it is important for decision-makers to receive knowledge of how to make sourcing decisions. Using Salaman’s (2002) discussion on decisions reveals that sourcing decisions can be described as decisions that to a great extent affect an organisation. The results from sourcing decisions influence the organisations, how it functions and how it is organised, which means that it is important to know how to make sourcing decisions. There is also, as Baldwin, Irani and Love expresses it:
A need to gain insights into how and why organisations decide to outsource so that others can learn from their experiences (2001, p. 15).

The statement from Baldwin et al. (2001) can be extended and in addition to gain insights into why and how organisations decide on outsourcing, there is also a need to gain insights into why and how organisations decide on other sourcing options.

This discussion motivates the research further, both from the point of lack but also from the influence sourcing decisions have. The third reason then further motivates research on sourcing decisions from a more practical view.

**Sourcing decisions affects organisational performance.**

In organisations the use of software applications has increased a lot, and it can be argued that so has the costs involved (Love, Irani, Ghoneim, & Themistocleous, 2006; McCauley, 2004). Decision-makers in organisations are forced to both control costs and to be more cost effective. According to Leffler (1987), Brandt, Carlsson and Nilsson (1998) as well as Bearingpoint (2004) a lot of efforts are spent on maintenance of software applications. From the costs that these authors report it can be argued that the main part goes to hosting. Bearingpoint state that 57 per cent of organisations’ ICT budget goes to support and maintenance. This means that for organisations that want to cut costs on software applications, reorganising hosting could perhaps be a viable measure. Another reason for why sourcing decisions is of importance for organisations is the evolution that has taken place in software applications. This has led to that “new” ways of delivering hosting are available. For instance, Internet has made the use of distance provisioning of software applications easier and more available for organisations. The evolution of software applications have also made organisations more dependent on software applications and the question whether software applications delivers competitive advantage or not are in focus (Mata, Fuerst, & Barney, 1995). According to Mata et al. (1995) the realization of competitive advantage from software applications is dependent on how organisations use software applications, and it can be stated that this usage to a great extent depends on how hosting is made, which is decided on in a sourcing decision. Sourcing decisions in organisations are also influenced by the productivity debate in the way that the question whether software applications are a commodity or not (Carr, 2003, 2004; Smith & Fingar, 2003) or if it provides organisations with increased productivity (Brynjolfsson, 2003). Whether software applications increase productivity or not is dependent on
usage and usage is dependent on how software applications are organised, which is decide on in a sourcing decision.

The motivation, for the thesis on sourcing decisions, from the point that sourcing decisions on hosting are of importance for organisations can be summarised as follows:

- Organisations today are interested in decreasing costs of software applications and/or increasing benefits received from software applications usage.
- The ICT budget to a great part is in organisations spend on hosting of software applications.
- The rapid development of software applications have made it hard for organisations to sustain knowledge and being knowledgeable about software applications.
- The evolution of software applications has more or less forced organisations to increase usage of software applications.

These statements show that how an organisation hosts its software applications is important today and it will be even more important in the future. The question is how an organisation gets this “successful” hosting, which emphasise that why and how sourcing decisions are made is of importance to have more knowledge about.

From the discussion of these three reasons that motivate research on sourcing decisions the following conclusion can be made. There is a lack of research on process research when it comes to strategic decision-making. It can be stated that sourcing decisions is a complex decision-making process that is of importance and influences the entire organisation. This means that it is a decision-making process that are suitable for doing research on with the aim of describing and explaining a decision-making process and thereby providing knowledge to decision-makers so that they in the future can make “better” decisions.

The chapter so far has motivated the research area. The primary research question and sub-questions are presented and motivated in the next section.
1.2 Purpose and Research Questions

The purpose of the thesis is to describe and explain decision-making processes in organisations, particularly why and how these processes influence organisations’ decisions on which sourcing option they will use for hosting their software applications. The primary research question addressed and its sub-questions are shown in Figure 1-1.

Figure 1-1 Primary research question and sub-questions

In the primary research question decide should be interpreted as identification, evaluation and selection between different sourcing options as well as why and how sourcing decisions are made. The thesis will for instance describe the decision-making process by emphasising on why and how organisations decide when they decide if they should deliver the services by themselves or buy the services from an external provider. The thesis also describes what factors that influence the start as well as at different stages in the decision-making process. This can be described as what factors are involved and how these factors influence different stages in the decision-making. This means that there are a couple of sub-questions related to the primary research question.

The first sub-question is why organisations start a sourcing decision process. This question is, to a high extent, about what factors that influence the start of a sourcing decision. It is also about what factors that are involved and in what
way these factors influence the decision-making on different stages in the process, for instance decision-makers thoughts about software applications and how it is related to the organisation’s core business. This means for instance that a question to ask is why the organisation started the sourcing decision process at all.

**The second sub-question** is how organisations make sourcing decision processes. To this sub-question there are a couple of underlying questions to pose. Who makes the decision? What data or information does the decision-maker need? What steps are taken in the decision-making process? It could be asked how a specific decision-maker or decision-makers and the thinking he/she or they have on how the decision should be made impact how sourcing decision are made. It could also be asked how views about change issues impact the sourcing decision-making process.

**The third sub-question** is what relations there are between why and how factors in sourcing decision processes. That there are relations between why factors and how factors can be easily illustrated, but the question is first and foremost what relations there are and, secondly, in what way different factors influence each other in a sourcing decision-making process. This means that this question will for instance look into how a factor that influences the start of a sourcing decision influences the decision-making process.

This thesis deals with these questions and by answering the three sub-questions the intention is to give answers on the primary research question and thereby fulfilling the expected contributions described in the next section.

### 1.3 Expected Contributions

The expected contributions of the thesis are meant to increase knowledge of why sourcing decisions are started and how sourcing decision-making processes are conducted in organisations. In order to do that, decision-making processes when deciding on sourcing options for hosting of software applications are in focus. This means that a contribution will be the description of sourcing decision-making processes. By describing and explaining how sourcing decisions are made further research can be made that could help decision-makers in organisations to become better prepared for doing sourcing decisions and thereby make “better” sourcing decisions. The descriptions will also describe outcomes at different phases in a sourcing decision-making
process which will act as input to more knowledge of why organisations choose a specific sourcing option for the hosting of software applications.

Another contribution can be related to the debate in decision-making research between formalism and incrementalism. Formalism can be compared to rationality while incrementalism can be compared to bounded rationality or irrationality. Elbanna (2006) states formalism is dominant in decision-making research, and research results often lead to normative models of how to make the final decision in a decision-making process. It can be stated that the normative models need to have descriptive research as a base for development. This thesis will contribute with a descriptive model for why and how sourcing decisions are made. This will most probably be possible to use further on to design guidelines and/or act as input to research on normative models related to sourcing decisions.

The thesis will also contribute to the ongoing debate whether decision-making are rational or irrational and how rationality supports irrationality and vice versa in strategic decision-making. It will also contribute with a description of the relationship between context and process related to influencing factors in sourcing decisions. This means that the major contribution will be related to process research in decision-making which according to Elbanna (2006) deals with how strategic decisions are made and factors that affect the process.

1.4 Initial Definition of Key Concepts

Before going deeper into the subject and the thesis, initial definitions of the following concepts are delivered: decisions, decision-making processes, sourcing, hosting, software applications, and organisations.

**Decisions** are a *commitment to action* (Mintzberg, Raisinghani, & Theoret, 1976) which implies distinct and identifiable choices (Langley, Mintzberg, Pitcher, Posada, & Saint-Macary, 1995).

**Decision-making processes** are a set of actions and dynamic factors that begins with the identification of a stimulus for action and ends with the specific commitment to action (Mintzberg et al., 1976).

**Sourcing** should be seen as a broad term for how an organisation provides itself with something it needs and in this case ICT and software applications. In a broad sense, it can be argued that irrespective of what products or services organisations need, they have two distinct options, produce or purchase, or in
other words, make or buy. This means that they can arrange or produce the services or products by themselves or they can buy them. This describes very broadly what sourcing of software applications and ICT is about\(^1\).

**Hosting** is closely related to sourcing options. For instance, when an organisation decides on using application service provision as a sourcing option, the hosting will be localised outside the organisation. The most common interpretation of hosting is probably to see it as web hosting. Hosting, according to Kern, Lacity and Willcocks (2002b), is the provisioning, running and maintaining of software applications. This thesis uses this definition, but with an emphasis on localisation. This means that hosting should be seen as localisation of software applications regarding provisioning, running and maintaining of software applications. This means that hosting of software applications is about where the servers with the software applications used in the organisation are located.

**Software applications** are defined by relating it to information and communication technology (ICT). The reason is that there are close relationships between ICT and software applications. ICT is a somewhat fuzzy concept that is more or less used synonymously with the term information technology (IT). In the thesis I use ICT and the reason is to thereby explicitly include the communicational aspect of the technology. ICT is defined as:

> Information and Communication Technology (ICT) includes the full range of computer hardware, computer software, and telecommunication facilities (Moursund, 2003).

It could be asked what differs ICT from software applications? Referring to the definition of ICT above, it can be argued that computer software and software applications is almost the same. Computer software could be separated into systems software and applications software (Turban, McLean, & Wetherbe, 2001). Systems software is low-level programs that interact with the computer hardware at a very basic level, including operating systems, compilers and utilities for resource management of the computer. My definition of software application is as follows: software applications are ICT-based applications used specifically to support work tasks and processes in organisations.

\(^1\) A deeper discussion about sourcing and sourcing options can be found in Chapter 2
By describing ICT and software applications in this way, both are described as supporting tools for users in organisations. This emphasises the difficulties in separating them from each other. I use ICT as a broader term and software applications as part of ICT.

The last concept to define is organisations. **Organisations** is defined as a *structure of activities in which actors and activities are unambiguous connected to each other* (Lundgren & Snehota, 1998). This means that organisations should be understood as formal and restricted by legal regulations. In that way organisations are used as a generic term for firms, companies, enterprises, among other things.

### 1.5 An Overview of Subsequent Chapters

The thesis consists of three parts and nine chapters, as shown in Figure 1-2.

**Part I** includes chapter 1, which introduces the thesis. In a thesis the “state of the art”, in the meaning of our knowledge base of the subject has to be reported. Chapter 2 is devoted to that. Chapter 2 also includes the findings from my licentiate thesis, *Deciding on Using Application Service Provision in SMEs* (Johansson, 2004a), which is summarised and acts as one point of departure for the rest of the thesis. In Chapter 3, the research approach, the research design and the research methods used are presented and discussed in relation to other alternatives.

**Part II** is theoretical and aims at generating and justifying propositions² about sourcing decisions that later on (Part III) are used to describe and explain sourcing decisions. Chapter 4 defines concepts used in the thesis and delivers a theoretical base for Chapter 5 and Chapter 6. Chapter 5 discusses why organisations start sourcing decisions and presents propositions related to that. Chapter 6 discusses how sourcing decisions are made and presents propositions related to that.

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² In the thesis propositions are defined as theoretical statements that on their own or in combination could be seen as “theory” about sourcing decisions (Bryman & Bell, 2003).
Part III starts with reporting empirical data, by describing the organisations that are investigated and the sourcing decision made (Chapter 7). The propositions are “tested” against empirical data in Chapter 8, which means that in Chapter 8 empirical data from Chapter 7 and presentations from earlier
chapters are compared and discussed. In Chapter 8 answers to the research questions, both primary research question as well as related sub-questions, are presented. In the final chapter, Chapter 9, the contribution from the research is summarised. In addition to the contribution there is a discussion about quality using Klein and Myers’s (1999) seven criteria as a guide for evaluating the research. Finally further research is discussed.

1.6 Chapter Summary

This thesis concerns sourcing decision-making processes in organisations when they decide on which sourcing option to use for hosting their software applications. The chapter describes why this thesis is of interest and for whom it is interesting. It is argued that organisations have a couple of different concerns which to a great extent are connected to hosting of software applications. The primary research question for the thesis is as follows: Why and how do organisations decide on a specific sourcing option for hosting of their software applications? This question is broken down into three sub-questions: Why do organisations start a sourcing decision, how do organisations make sourcing decisions and what relations are there between why and how factors in sourcing decisions. The purpose and expected contributions of the thesis is discussed and it is stated that the result will mainly be of interest for the academic field, but also for decision-makers involved in sourcing decisions. By describing and explaining the decision-making process when deciding on sourcing option, it is claimed that it can act as input for further research that then can influence decision-makers in the future so that they can make better decisions. The thesis will build on existing knowledge about sourcing decisions and will mainly have an impact in the academic field, and will increase the knowledge of why and how sourcing decisions are made.

In the next chapter the main results from my licentiate thesis Johansson (2004a) is reported and acts as one point of departure for this thesis. Chapter 2 also reports from a literature survey on decision-making and sourcing decisions. The literature survey summaries what has been done and our knowledge of where research on sourcing decisions stands today.
Chapter 2 - Point of Departure

This chapter works as a point of departure for the rest of the thesis by presenting earlier research of importance for the thesis. The aim of this chapter is to introduce the application service provision (ASP) decision model and the factors the model suggests as crucial when organisations decide on which sourcing option to use for provision of software applications. The chapter also reports and relates my study to research on ICT, software applications and sourcing decisions through presenting results from a literature review. Different sourcing options and the relation between hosting, maintenance and development is discussed. Thereafter the ASP decision model and its suggested factors are presented. Finally, conclusions are drawn from the model and its factors.

2.1 Research on Sourcing Decisions

To justify and fortify my argument that there is a lack of research on sourcing when it comes to sourcing decisions regarding hosting of software applications, this section presents in a concentrated form a literature review. Table 2-1 presents an analysis of literature on sourcing used in Johansson (2004a). The analysis was made by categorising the literature after its main focus using the generic questions: Why, what, which and how. In the analysis, why was interpreted as why organisations should use one of the three specific sourcing option, which means that the results often are described as benefits such as decreases of costs or increases of risks such as increases of dependency with different sourcing options. What was interpreted as the basic of a specific sourcing option, often resulting in a description of a specific sourcing option. Which was interpreted as whom to cooperate with, often resulting in a discussion about how the final selection of which partner to cooperate with should be done. Finally, how was interpreted as how organisations make sourcing decisions, meaning that it often results in a model that describes how decisions are made. By having these focuses when analysing the literature it was categorised as in Table 2-1.
### Table 2-1 Literature on sourcing studies and its main focus

<table>
<thead>
<tr>
<th>Author</th>
<th>Main focus of the study</th>
<th>Why</th>
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<tr>
<td>(Udo, 2000)</td>
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It can be stated that a study sometimes has several focuses, in other words, it could be categorised in different ways. Aalders (2001) describes the difficulties that come with categorising a study, and his presentation could be categorised as both what and how. I have categorised it as ‘what’, since he to a great extent describes outsourcing, but his description is also a ‘how’ description and as such describes how executives should make the final decision in an outsourcing deal. In that way the study by Aalders is a how study, but the how is focusing on the implementation phase. The reason for categorising it as ‘what’ is that it can be described as content research using Elbanna’s (2006) description of content research, since it to a great extent focus on the final decision and not on the early phases in a sourcing decision process.

To further deepen the analysis of literature on sourcing decisions, a literature search was done about decision-making and sourcing options using different combinations of decision-making, sourcing and related concepts, as shown in Table 2-2. This search was made by using ProQuest, which is an online information service providing access to thousands of current periodicals and newspapers containing full-text articles from 1986 (ProQuest, 2005). The databases and attached journals date back to 1971. The search was made in multiple databases, resulting in that the search was made in the following six databases: ABI/Inform Global, ABI/Inform Trade & Industry, Accounting & Tax, Accounting & Tax Newspaper, Accounting & Tax periodicals and Banking Information Source. These databases cover a total of 8,664 journals including major IS journals such as European Journal of Information Systems, Information Systems Research, Journal of Information Technology, Journal of Management Information Systems, MIS Quarterly. The search was made in citations and abstracts excluding titles of journals. The choice of search criteria follows to a great extent a relevance tree (Appendix A) that was developed with the aim of being able to conduct a more selective and appropriate literature review as described by Hart (1998).
Table 2-2 Results from the literature search in ProQuest

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<td>422</td>
<td>410</td>
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From Table 2-2 it can be concluded that there is a lot of research made about decision-making. There are also a lot of research made about sourcing and especially outsourcing. However, there are not so many hits when combining decision-making and sourcing. The table shows that there is an increasing amount in hits overall. This is probably due to that more and more articles are made searchable. There is also an increase in attention about service provision and outsourcing ever since the mid-1990s. This could probably be explained to some extent by the hype on application service provision. There is also an increase in numbers of articles presenting insourcing in 1996. This can probably be described as a response to Lacity and Hirschheim’s (1995) book “Beyond the information systems outsourcing bandwagon: the insourcing response”. The variation on frequencies in the table on the same search criteria probably also describes the normal differences different concepts have over time.

The main conclusion from the literature review is that there is a lack of research focusing on decision-making in sourcing decisions, which supports my assumption about the lack of research about how organisations make sourcing decisions and especially in the early phases of that process. Table 2-1 and Table 2-2 support the conclusion that there is a lack of research on why and how sourcing decisions are made. As shown in the tables there seems to be a gap in the literature on the how question. As reported by Dibbern et al. (2004) from the survey and analysis of ICT outsourcing literature, a lot of studies exist. Dibbern et al. analyse sourcing literature from the three stands, why, what and which. My impression is that it would also be fruitful to research the how perspective, in the form of doing research on how a sourcing decision-making process is made. There is also research on the how question. But the main bulk of these are on the implementation phase, as described in Dibbern et al. (2004), and I have not found that many descriptions of the how question in the decision-making process; however some examples include De Looff (1995; 1997; 1998), Udo (2000) as well as Fink and Shoeib (2003). It would be fruitful to more clearly examine the how stand, especially in the early phases of a sourcing decision-making process. Conducting an empirical research approach studying why and how organisations handle the early phases in a sourcing decision will fill the lack that to some extent exists within sourcing research. This is also supported by Gonzales, Gasco and Llopis (2006), that state that of the research, with the perspective of outsourcing from a client perspective, only 19 articles out of 205 had some focus on decision-making.
However, a lack of research does not mean that more research is needed. But, as described in Chapter 1, sourcing decisions are important for organisations and a description and explanation of how sourcing decisions are made is needed to be able to give input to further studies that can help organisations make sourcing decisions and outcomes from these to become more successful.

### 2.2 Hosting and its Relation to Maintenance and Development

After motivating the thesis on sourcing decisions, what is interesting to discuss is the relation between hosting, maintenance and development of software applications. This will give a clearer picture of the focus of the sourcing decisions investigated in this thesis. When explaining the differences as well as the relation between hosting, maintenance and development, the concept ICT function could be useful. De Looff (1997) as well as Agarwal and Sambamurthy (2002) use ICT function when describing sourcing decisions. To them ICT function is a concept that involves the entire organisation. It does not restrict software applications to something that is managed by a central ICT department. De Looff defines the ICT function as all activities as well as all resources needed by organisations to establish and sustain functionality they need from software applications. To him, this emphasis on ‘who’ should manage different ICT related works tasks. De Looff states that one of the most important decisions regarding ICT is which part that should be done by specialists and which part should be done by users. This indicates that De Looff to a high extent focuses on who it is that makes the work tasks when he defines ICT function. De Looff (1997) classifies the activities into five different components based on the software applications life cycle: Planning, development, implementation, maintenance and operation as shown in Figure 2-1.

A useful distinction could be to describe activities as before software applications have been taken into use as well as after software applications have been taken into use. This distinction would then classify planning, development and implementation among the before into usage class, and maintenance as well as operation among the after taken into usage class. This gives a reasonably clear distinction between development on one side and maintenance and operation on the other side.
The distinction between maintenance and operation as well as between maintenance and development is not that clear. According to Haverblad (2004) it is possible to separate these from each other by looking at how long time the different activities are supposed to have an impact. Haverblad makes a distinction between processes for support and processes for delivery. Support processes (short time period) can be compared to operation and delivery processes (longer time period) can be compared to maintenance. A difficulty comes with this interpretation and that is change management as described by Haverblad. According to her, change management is done in the support process. I would argue that change management is something made with a longer time perspective and therefore it could belong to the delivery process as well. I would say that this is probably one of the reasons for why organisations and the one who works in organisations have different opinions of what development, maintenance as well as what operation is. By comparing the description of maintenance given by De Looff (1997) with the description Haverblad (2004) gives of support processes, I would say the description given by them differ about how change management are classified. Looff gives the following description of maintenance:

**Figure 2-1 Software applications lifecycle**

The distinction between maintenance and operation as well as between maintenance and development is not that clear. According to Haverblad (2004) it is possible to separate these from each other by looking at how long time the different activities are supposed to have an impact. Haverblad makes a distinction between processes for support and processes for delivery. Support processes (short time period) can be compared to operation and delivery processes (longer time period) can be compared to maintenance. A difficulty comes with this interpretation and that is change management as described by Haverblad. According to her, change management is done in the support process. I would argue that change management is something made with a longer time perspective and therefore it could belong to the delivery process as well. I would say that this is probably one of the reasons for why organisations and the one who works in organisations have different opinions of what development, maintenance as well as what operation is. By comparing the description of maintenance given by De Looff (1997) with the description Haverblad (2004) gives of support processes, I would say the description given by them differ about how change management are classified. Looff gives the following description of maintenance:
Deciding on Sourcing Option for Hosting of Software Applications

Keeping the IS appropriate for the intended use, by changing the functional or technical characteristics of the system (De Looff, 1997, p. 25).

And he describes operation in the following way:

*Operating information systems to allow for uninterrupted use, without changing functional or technical characteristics of the system (De Looff, 1997, p. 25).*

I would say that the activities that Haverblad suggests belongs to the support process: User support, management of incidents, management of problems, management of configurations and management of release, are very much in line with how I would describe operation. From this discussion it can be concluded that operation and hosting is more or less the same. The reason for why I use hosting instead of operation is that I by that focus more on localisation than if the actual activities are labelled operation or maintenance.

2.3 Sourcing Options for Hosting

Figure 2-1 shows that independent if it is development or hosting that are decided on in a sourcing decision decision-makers have two distinct options, purchase or produce see Figure 2-1, decision level (1). This distinction is discussed in, for instance, transaction cost theory as a distinction between market and hierarchy (Williamson, 1985) and by Kishore, Agrawal and Rao (2004) as market governance respectively hierarchical governance. The produce option can be broken down into work tasks made by internal employees or with a mix of internal employees and external “employees”. The latter option is closely related to the purchase option. The option of using external “employees” can be compared with purchasing services in the form of consultancy. This can be seen as internal sourcing if the buying organisations have control over the hosting. Control of hosting (control level (2) in Figure 2-1) can be described as a continuum and this means that the more to the right in Figure 2-1, the less control over its hosting an organisation has. This means that an organisation has to rely on and trust an external partner for hosting.

The discussion so far reveals that there are three different sourcing options for hosting of software applications: Make, buy, or rent, as show in Figure 2-1. Järvinen (2000) also describes sourcing of software applications as consisting of three alternatives labelled development, rent or buy. These alternatives put forward that there are a differences between sourcing options dependent on
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what work tasks that the sourcing should take care of. A more general distinction of different sourcing options describes sourcing of either development or hosting. Kern et al. (2002b) maintain that there are four general sourcing options for organisations: Outsourcing, insourcing, buy-in and service provision. The buy-in option can be described as internal sourcing. I use internal sourcing since I would say that internal sourcing describes what it is more clearly, since it emphasis on that hosting is done internal in the organisation. It is also so that service provision can be described more or less as usage of outsourcing (Johansson, 2004a). Service provision could also be said being similar with the description of imaginary organisations that Hedberg, Dahlgren, Hansson, and Olve (1994) give. They describe imaginary organisations as interconnected networks of cooperating people and coordinating ICT where important resources could appear both outside and inside the legal unit. From this it can be said that there are three different sourcing options that organisations can decide on in sourcing decisions: Outsourcing including service provision, insourcing and internal sourcing. The following sections will highlight these three concepts, a more extensive discussion about these concepts can be found in Johansson (2004a).

2.3.1 Outsourcing

De Looff (1998), Chapman and Andrade (1998) as well as Levina and Ross (2003) point out that there are different and sometimes confusing definitions of outsourcing. According to Looff outsourcing is related to what Williamson (1985) labels market versus hierarchy decisions, Rands (1992) calls it the make or buy decision, and Gurbaxani and Whang (1991) as well as Porter (1980) call it vertical integration. De Looff emphasises in his definition that the outsourcing organisation can use one or more external suppliers. This is to some extent described by Willcocks (1994), who claims that outsourcing could be classified according to the relative grade of outsourcing in an organisation into the following three options: Selective outsourcing, transitional outsourcing and total outsourcing. Total outsourcing means according to Willcocks (1994) that at least 80 per cent of an organisation’s ICT budget is spent on external partners, selective outsourcing is then when less than 80 per cent is spent on external partners, and transitional outsourcing is when the organisation uses outsourcing temporarily. Chapman and Andrade discuss the different views on external in their definition, and state that the most common view is to see external as an external partner. Levina and Ross put forward the question of
transferring decision-rights in their definition, saying that outsourcing means that organisations transfer property or decision-rights to an external provider. Another characteristic of outsourcing is according to Quélin and Duhamel (2003) the time horizon, and they argue outsourcing is often a long-term contract. Quélin and Duhamel (2003) define outsourcing as:

*The operation of shifting a transaction previously governed internally to an external supplier through a long-term contract, and involving the transfer of staff to the vendor (Quélin & Duhamel, 2003, p. 648).*

This definition clearly shows that it is about moving functions already present in the organisation and that it is a long-term contract. This definition describes what outsourcing of hosting is about. But, it is worth mentioning that quite often in outsourcing of hosting the actual movement of equipment never takes place (Johansson, 2004a). What happens in many cases is that the outsourcing organisation “sells” their equipment to an external partner that often initially continues with the same equipment and the “same” working staff at the same place (Barthélemy, 2003b). This means that if the outsourcing is successful in its implementation the rest of the organisation should hardly notice any changes.

As argued above, service provision could be seen as a form of outsourcing. The attention service provision has received has increased a lot during the latest years and the reason is Internet as one delivery channel. According Kern et al. (2002b) this sourcing option and the use of sourcing through communication networks have increased in the last few years. The basic idea in service provision is that instead of buying software from an independent software vendor, the customer has access to the software through a network, and service is provided from a remote network centre. Service provision as a concept includes a lot of different service providers as described by Kern et al. (2002b), and services provision can be defined as:

*Service provision is when organisations buy or rent services regarding software applications from external partners. This is made on a regular or irregular basis aiming at fulfilling the organisations need for the services (Johansson, 2004a, p. 54).*

This definition emphasises that service provision can be seen as selective outsourcing. One of the stated benefits with service provision is that organisation can easily choose between internal and/or external provision of
hosting. If so, service provision can be seen as one option considered in a sourcing decision, and it could be seen as an option for delivering hosting of software applications. However, in a sourcing decision I would say that this option is comparable with outsourcing, since both focuses on the usage of an external partner.

2.3.2 Insourcing

Insourcing can be seen as the opposite of outsourcing. Chapman and Andrade (1998) say that it is easy to define insourcing, but it demands that outsourcing be defined first. Chapman and Andrade state that insourcing is the reverse of outsourcing, and that it is the return of functionality to the organisation’s legal structure. Kador (1991) contends that this term denotes when an organisation restructure its ICT operation, but still retaining full control. This definition of insourcing describes insourcing as the process of restructuring the resources and does not demand it to be outsourced first. The result of an insourcing process is that costs and responsibility becomes associated with internal management again (Chapman & Andrade, 1998). There are three different views of insourcing, the first is:

One company’s outsourcing is another company’s insourcing (Hutheesing, 1996, p. 209).

The second view is that an organisation restructures its internal resources as described by Kador (1991). The third view is that insourcing is the process of bringing back earlier outsourced resources. This last view is in my opinion the common understanding of insourcing, and the following definition of insourcing is used in this thesis:

Insourcing is the process of bringing back assets that were previously outsourced to a partner outside the organisation (Johansson, 2004a, p. 50).

2.3.3 Internal Sourcing

Organisations have two overall options for supporting themselves with services, produce or to buy. Outsourcing can be seen as going in the direction of buying. Internal sourcing could then be described as producing. However, organisations with internal sourcing often need to buy something, for instance consultancy expertise which means that internal sourcing could be described as a mix of producing and buying. Kern et al. (2002b) describe this as buy-in,
which is a sourcing option where organisations bring in resources and use them under own control. In Willcocks and Lacity’s (1998) view of different sourcing strategies the buy-in option is described as having a purchasing style like a transaction. The organisation buys something that it will use to produce something. By relating buy-in to internal sourcing, I would say that internal sourcing can be defined as:

*Internal sourcing is when organisations controls and manage its software application by themselves. To do that they sometimes buy or rent resources related to software applications that they then handles and controls by themselves.*

In the case of internal sourcing of hosting it can be managed more or less decentralised or centralised. The dominant characteristic of internal sourcing of hosting is that it is made internal in the organisation.

### 2.3.4 Outsourcing and Insourcing: Process and Result

There are some problems with different definitions of outsourcing and insourcing and one reason is that some authors view out- and insourcing as a process while other view out- and insourcing as a result. In my view outsourcing and insourcing is a process. This means that in a sourcing decision-making process of hosting, if the result is outsourcing, the final decision becomes that hosting are mowed to an external provider. If the final result is insourcing the result from the sourcing decision-making process means the reverse and hosting is moved back from external provision to internal provision again. This means that there are in a sourcing decision-making process two different directions for the result of a sourcing decision either internal or external provision.

After describing and discussing sourcing options, one may wonder how organisations make the decision when they decide on a specific sourcing option and what factors there are directing the outcomes of the decision. The next section presents a model over decision factors suggested to play a role in the explanation of results of sourcing decision-making processes when organisations decide on a specific sourcing option.

### 2.4 The ASP Decision Model

This section introduces influencing factors in a sourcing decision-making process. It does so by presenting the ASP decision model developed in
Johansson (2004a). Statements about influence of the factors are presented below with an introduction to the theories the factors were derived from: Transaction cost theory, resource-dependency theory, agency cost theory and resource-based view of the firm. Arguments suggested in sourcing literature for deciding on using a specific sourcing option as well as against deciding on using a specific sourcing option also acted as input to the factors. Seven factors, shown in Figure 2-2, were identified: Strategy, core competence, capability, benefits, costs, risks, and trust. These factors were used to explain why or why not SMEs choose to adopt or not to adopt application service provision for the provision of software applications (Johansson, 2004a). The following discussion describes the ASP decision model, the factors as well as statements about influence derived from the model and its factors.

From the resource-based view (Barney, 1991), core competence and capability can be suggested as factors influencing sourcing decisions. It can be argued that if software applications support organisation’s core competence, the organisation should not outsource its software applications. It also implies that if the organisation does not have the possibility to provide necessary capability internally, it can increase its capability by using external provision of software applications.

From transaction cost theory (Williamson, 1975) and agency cost theory (Eisenhardt, 1989a) the factor cost is proposed. According to transaction cost theory the decision to use external service provision can be seen as a comparison between costs for producing by oneself and costs when buying the same service from an external provider. Agency cost theory expands this view by stating that the decision is a comparison between costs described as above expanded with expected risks of letting an external provider take care of software applications. Agency cost theory proposes the factor risks but also introduces benefits as a factor influencing the decision.

Resource dependence theory (Pfeffer & Salancik, 2003) suggests trust as a factor influencing the decision of using external or internal service provision. Resource dependence theory deals with the dependence on another organisation for obtaining critical resources which are not available internally. In that way resource dependence theory also acts as input to the factors strategy and capability.
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From the model and proposed factors the following statements were formulated for why a specific sourcing option is decided on in an organisation (Johansson, 2004a, pp. 105-109).

- **Strategy.** The overall business strategy of an organisation acts as the basic input for sourcing decisions.

- **Core competence.** The organisation’s view of software applications as part or not part of the organisation’s core competence influences outcomes of sourcing decisions.

- **Capability.** The decision is impacted by a need to change software applications capability in the organisation. Using external service provision is seen as a way of improving software applications capability.

- **Benefits.** Expected benefits from adoption of external service provision affect the outcome of sourcing decisions.

- **Costs.** The cost perspective expressed as cost efficiency acts as input for sourcing decisions. The decision is a trade-off between costs of different options.
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- **Risks.** Expected risks of adoption of external service provision affect the outcome of sourcing decisions.
- **Trust.** Trust about external service provision as a concept affects the outcome of sourcing decisions.

### 2.5 Conclusions Drawn from the ASP Decision Model

The model presented in Figure 2-2 suggests that each factor can in varying degree influence the sourcing decision process. The model does not argue that any specific factor has a specific effect. What can be stated is that motives for and against deciding on using external service provision differ fundamentally. For instance, one view is (Gilley & Rasheed, 2000), that outsourcing increases capability, another (Udo, 2000) that it decreases capability. How and in what way these factors affect a sourcing decision-making process is analysed in Chapter 8. Before that the factors suggested will be further discussed and elaborated on in Chapter 5 and in Chapter 6. The main conclusion in Johansson (2004a) is the following: There exist theoretically and empirically disparate views and results of what affects the adoption or non-adoption of external service provision in the form of application service provision. In short, the providers cite cost control and the ability to decrease the cost as motives for adoption of external service provision. The clients mention three main reasons for adopting external service provision:

- First, a wish to increase software applications’ capability. The customers express this as a need to have increased accessibility to their software applications.
- Second, development, maintenance and/or hosting of software applications are not their core competence, and they want a convenient solution for their software applications.
- Third, the adoption is an effect of the organisation’s overall business strategy.

These findings contradict the often suggested reason that cost control and lower cost induce an organisation to become an external service provision client. In the first place this seems to be the reason but an in-depth study of the decision gives a profound understanding of the sourcing decision, and the cost perspective is found to be secondary.
The conclusion drawn in Johansson (2004a) is that the model seems to be a good starting point when studying how and why organisations decide on a specific sourcing option. The model would benefit from being elaborated with relations between the proposed factors. It would also be fruitful to use the model and the factors that it suggests when discussing outcomes at different phases in a sourcing decision-making process.

2.6 Chapter Summary

This chapter started with presenting findings from a literature study that identified a lack of research when it comes to how sourcing decisions are made. Different sourcing options that organisations have for hosting of software applications were then presented, and it was argued that there are two distinct options for hosting, internal or external sourcing, in the form of outsourcing, insourcing and internal sourcing. Outsourcing and insourcing were described as a decision process in which organisations decide whether they should have internal or external sourcing of hosting. Service provision was described as a form of outsourcing that could result in a mix of internal or external sourcing comparable with selective outsourcing. In the chapter the ASP decision model and its factors for deciding on external service provision was presented (Johansson, 2004a). The aim of Johansson (2004a) was to explain and describe the decision-making process when SMEs decide on using application service provision for provision of software applications.

From the ASP decision model seven factors influencing sourcing decisions were presented: Strategy, core competence, capability, benefits, costs, risks and trust. These factors build up the model and the statements that was presented were as follows: 1) The overall business strategy of an organisation acts as the basic input for the decision, 2) the organisation’s view of software applications as part or not part of the organisation’s core competence influences the decision, 3) the decision is impacted by a need to change software applications’ capability in the organisation and external service provision is seen as a way of improving software applications capability, 4) expected benefits from adoption of external service provision affect the outcome of the decision, 5) the cost perspective expressed as cost efficiency acts as input for the decision and the decision is seen as a trade-off between costs of different options, 6) expected risks of adoption of external service provision affect the outcome of the decision, 7) the question of trust in external service provision is an important factor in the decision-making.
These statements and relations between the factors are discussed and developed further on in the thesis. This chapter should be seen as the point of departure for the thesis. The ASP decision model (Johansson, 2004a) seems to be a good starting point for studies about decision-making processes in organisations, when studying how and why organisations decide in a sourcing decision. It was stated that the model would benefit from being elaborated with relations between the proposed factors as well as to use the model and the factors that it suggests when discussing phases in a sourcing decision-making process. This is to a great extent the intention of this thesis.

At this point it can be stated that the factors play different roles at different phases in a sourcing decision. This will be elaborated on in Part II that will discuss why and how sourcing decisions are made, but, first are the research approach and the design of the study presented in the next chapter.
Chapter 3 – Research Approach

This chapter describes and justifies the research approach and the research design of the thesis. The aim of the chapter is to outline how the research was done and why it was done in that way. The chapter starts with introducing the research approach. It then continues with discussing the research design and methods used. Finally there is a chapter summary.

3.1 Introducing the Research Approach for this Thesis

This section introduces the research approach of this thesis. But first a clarification on my view on research approaches and their relation to research design is needed. In my view a research approach is similar with a research strategy and in that way a research approach should be seen as the overall direction for research. Research design is the action taken to fulfil the approach, and the research design is carried out by the use of research methods (Bryman, 2001). After this clarification of research approach the question what guides the choice of research approach can be asked. The research question, existing knowledge of the studied phenomena as well as the researcher’s ontological and epistemological position should direct the choice of approach (Bryman & Bell, 2003; Eisenhardt, 1989b; Lee, 1999; Trauth, 2001). The overall research question in this thesis is a why and how question. Why and how questions stress both what reality is perceived to be, building of guidelines, methods as well as prescription for how to do. According to Bryman (2001) the final choice of approach depends on what kind of outcome a researcher expects or wants to achieve.

Despite that the question should direct the choice, there is a risk that the choice of research approach is influenced by the researcher’s surroundings. This is the factor that Trauth (2001) calls academic politics, Easterby-Smith, Thorpe and Love (2002) call it politics of management research and Fitzgerald and Howcroft express in the following way:

The essence of the problem is that researchers, rather than choosing a research approach appropriate to the research question being asked, actually tend to inherit unquestioningly their research methods from those dominant in the institution or region they happen to inhabit (Fitzgerald & Howcroft, 1998, p. 323).
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One way to reduce this problem is to have an open attitude and question the research approach. Then, it could be helpful to look at different taxonomies of research approaches, as outlined by for instance Järvinen (1999) and March and Smith (1995), but also to put forward the intended outcome of the research, which should highlight if the outcome of the research aims at being explorative, descriptive, explanatory, diagnostic or normative (Lundahl & Skärvad, 1999). This can also be compared to Gregor’s (2006) classification of theories, in which she classifies theory after the four goals: analysis, explanation, prediction and prescription. Zikmund (2003) argues that revealing the nature of the problem, which is supposed to be solved through the research, helps to classify the research. This means that classifying the research in relation to purpose will determine whether the research is exploratory, descriptive or normative (Zikmund, 2003). In order to decide on research approach to use I will start by classifying the research from the questions asked.

The overall question that is asked in this thesis is a why and how question. It can be described as anyone of Lundahl and Skärvad’s (1999) as well as Zikmund’s (2003) categories. In order to categorise the research, the purpose of the research has to be further examined. The purpose is to explain a sourcing decision-making process. Zikmund (2003) describes descriptive research as research designed to describe the characteristics of a population or a phenomenon. I would categorise the research as both descriptive as well as explanatory. The research emphasises how sourcing decision-making is made in organisations, and this question is clearly a descriptive question. It also emphasises why organisations start sourcing decisions as well as outcomes at different phases in a sourcing decision-making process. This means that it aims at finding and explaining relations between factors involved in sourcing decisions. In that way the research also can be seen as explanatory. According to Lundahl and Skärvad (1999), an explanatory investigation aims at finding relations between factors and how these factors impact a phenomenon or build up a phenomenon. Phillips and Pughs (1994) distinguish between three kinds of research: Exploratory, testing-out and problem-solving research. The research in this thesis can be categorised as Phillips and Pughs testing-out category. The reason is that the examined decision-making processes are analysed from generalisations derived from previous research on sourcing decisions.

Appropriate strategies for having answers to why and how questions are according to Yin (1989a) experiment, history or case study. Saunders, Lewis
and Thornhill (2000) make a difference between what questions and why questions. They say that what questions are typically descriptive questions and that why questions go beyond descriptions. As I see it, also how questions go beyond description and thereby explains phenomenon. The next section will deal with the selection of approach and give a more deliberated view of selected approach.

3.1.1 Selection of Approach

A study of a sourcing decision-making process can be done in at least three ways. These ways can be related to Yin’s (1989a) three strategies for answering how and why questions. First, study the decision-making process when it goes on, which means that the researcher has to have access to an organisation during the time for the decision. Second, study the decision-making process in retrospective, which means that the researcher studies the history of the decision, related to both case study and history. Third, provide decision-makers with scenarios and ask them to describe why they decide as they do, which is related to experiment. In history as well as in case study the researcher depends on access to information and informants that tells the story of a “real” decision-making process. The information can be descriptions given by decision-makers as well as documentation of the decision. This thesis is a retrospective design/approach. The reason for that is access, since I lacked access to ongoing decision-making processes.

Since a sourcing decision-making process is a behavioural pattern of action consisting of contemporary events, history as well as case studies can be used. Histories are described by Yin (1989a) as research studies were there virtually is no access to the event. Histories and case studies overlap each other, though histories of course can describe contemporary events. In my case I have used a retrospective case study and in addition to that asked questions about contemporary events by having access to decision-makers that have taken part in the sourcing decision-making processes investigated. This indicates that the research can be identified as a retrospective case study approach. The reason for not using experiment is that I believe it is difficult to develop scenarios on right level. It is also so that sourcing decisions consist of behavioural events, and it is hard to conduct explanatory research over behavioural events in an experiment.
Fitzgerald and Howcroft (1998) state that before choosing a research approach, a researcher has to examine possible approaches. Again, there are two possible approaches for this thesis when excluding experiment. The first was to study an on-going sourcing decision. The second was to study an already made sourcing decision. The risk that comes with studying an already made decision is that if the decision was taken a long time ago, the decision-makers will describe that decision as they remember it. Despite this I decided to choose the second approach and the reason for that was access, which will be described in more detail in Section 3.2.1. Before doing that, a more general discussion about research approaches is given. The reason for doing so is to present my philosophical standpoint, and answer the question what philosophical assumptions there are, and how these impact the research approach. The next section will further describe this and the approach selected.

### 3.1.2 Describing and Justifying the Selected Approach

The selected approach is a qualitative approach, with some influences from a pluralistic approach. A pluralistic approach allows, according to Fitzgerald and Howcroft (1998), different approaches to be used in different situations and in different stages in a research setting. It is relevant to apply different approaches to different problems as well as to use a combination of different methods to produce the most fruitful explanation of what goes on. To Klein (2002), the philosophical point of view guides and directs what the research design should look like. He says it is possible to interpret the same theory under different philosophical assumptions, but different philosophical assumptions give the theory different meanings. This has consequences for the choice of appropriate methods and the overall research design. It also means that the underlying assumptions impact how the presented findings and conclusions should be interpreted. According to Easterby-Smith et al. (2002), there are at least three different reasons why it is useful to gather an understanding of philosophical assumptions is useful. First, it helps clarifying research designs. Second, it helps the researcher recognising whether a design works or not. Third, it can help the researcher creating designs outside the researcher’s past experience.

Myers and Avison (2002) as well as Bryman and Bell (2003) argue that all research is based on some underlying assumptions. These assumptions declare what constitutes valid research and what research methods should be used and relate to the researcher’s ontological standpoint. It is important for a researcher to be acquainted with what these assumptions stand for. The assumptions are
also closely related to the researchers’ epistemological standpoint. According to Myers and Avison (2002), one possible distinction is to categorise the assumptions into the following three distinct epistemological categories: Positivist, interpretive and critical. One somewhat common misconception is that the word qualitative is a synonym for interpretive, which is not the case. Qualitative research can be positivist, interpretive or critical. The same is valid when it comes to a specific research method. A case study research can be positivist, interpretive or critical (Myers & Avison, 2002). Myers and Avison present the three philosophical perspectives in the following way: 1) Positivist research attempts to increase the understanding of a phenomenon by theory testing, 2) interpretive research aims to produce an understanding of the phenomenon through the meanings that people assign to the phenomenon investigated, and 3) critical research acts on the assumption that social reality is historically constituted and is produced and reproduced by people.

To Easterby-Smith et al. (2002), there are two philosophical traditions, positivism and social constructionism. Maykut and Morehouse (1994) describe the same by using the concepts, positivist approach and phenomenological approach. They refer to Lincoln and Guba (1985) and state that Lincoln and Guba have played an important role in the recognition of qualitative research as a legitimate way of doing research. Lincoln and Guba’s (1985) description of the postulates that guide the phenomenological approach is to a great extent the same as the distinctions for social constructionism that Easterby-Smith et al. (2002) present. To them, social constructionism means that the researcher is part of what is being observed, and the researchers’ interest is the main driver of science. They state that explanation aims at increasing general understanding by inducing ideas from rich data. The concepts investigated should hold the perspectives of the stakeholders and the unit of analysis could include the complexity of the whole situation. Generalisation is made through theoretical abstraction, and finally, the sampling requires that the cases are chosen for specific reasons. The question asked in this thesis aims at increasing the general understanding of why and how sourcing decisions are made in organisations, in that way it aims being explanatory. By explaining what factors that are involved in the decision and how they are related to each other, the result can indicate causality. But, the aim is not to describe the kind of causality that Easterby-Smith et al. refer to, when they describe positivism. According to Easterby-Smith positivism aims at showing causality which requires that the sample consists of large numbers selected randomly. The main difference
between the two philosophical traditions is according to Maykut and Morehouse (1994) that the positivist seeks verification or proof of propositions and the phenomenologist seeks to discover or uncover propositions. The usage of propositions in the thesis is in line with the description Suppe (1972) gives about descriptive propositions and how he describes that a theory is a collection of propositions.

Easterby-Smith et al. say that some researchers deliberately use methods which originate in different paradigms which could be described as pluralism. My standpoint is connected with pluralism which means that when I designed the research I looked at different options for collecting data. The standpoint is also reflected in my choice of unit of analysis. By choosing the approach of examining sourcing decisions in organisations that already have decided on a specific sourcing option, I believe that I can get a view of the decision-making process. But it also means that I have to question the data obtained from my respondents and to be aware of that history is always told as it is remembered at the moment. It is also important to be aware of that the description can be filtered so that it describes the decision-making in a more rational manner.

Fitzgerald and Howcroft (1998) say that the world is best understood by an interpretive view – thus reality is a social construct where multiple realities exist and research is both time- and context-dependent. This can be compared with Mingers’s (2001) description of pluralism. Mingers’s presents two arguments for pluralism. The first is that the real world is, as Mingers’s expresses it, multidimensional, consisting of a plurality of structures that generate the events that occur. This means, according to Mingers’s, that multimethod research is necessary to deal effectively with the full richness of the real world. The second argument is that a research study is a process that goes through a number of phases. The single theoretical perspective asserts that research is a single, discrete event. This is not usually the fact and the different phases or activities demand different methods for a more comprehensive research outcome (Mingers, 2001). Mingers discussion can be related to the agency – structure problem and what Hislop (2006) describes as the nature of human behaviour. Hislop states that it is necessary to take the structural as well as the cultural context in which action takes place into account to be able to understand how decision-makers behave and think.

The above described can be related to critical realism, which according to Smith (2006) could help a researcher to more clearly focus on the context and
how it influences decision-makers as well as how decision-makers influences the context. Critical realism is described by Carlsson (2003) as developed as an alternative to positivism and social constructivism. He says that:

Critical realism can be seen as a specific form of realism. Its manifesto is to recognize the reality of the natural order and the events and discourses of the social world (Carlsson, 2003, p. 12).

In critical realism three domains are identified which could be described as the view a critical realist has of science. Karlsson refers to Bhaskar (1978) when describing the three domains in the following way:

Critical realists distinguish between the ‘real’, the ‘actual’ and the ‘empirical’. They build on the assumption that reality is independent from our knowledge and observations of it. In the ‘real’ exist objects, causal structures and powers. The ‘actual’ refers to what actually happens if and when objects, casual structures and powers are activated in different constellations. The ‘empirical’ is the domain of observation and experience (Karlsson, 2005, p. 45).

The impact critical realism has on data collection and the possibility to analyse data are described by Hislop as follows:

Rather than critical realism being used to challenge and undermine practice-based analyses... it is suggested that critical realism can be used in tandem with practice-based epistemologies, so long as a critical realist rather than social constructionist ontology is utilized. Such an ontology gives equal explanatory weight to structure and agency in the analysis of social interaction and behaviour, and has an analytical focus on the structure/agency relationship (Hislop, 2006, p. 23).

The discussion about research approach above results in the following statement regarding the chosen approach for this thesis: The chosen approach is a retrospective case study research that aims at focusing on agency and structure influenced by a critical realism view in the form of having an open mind about what methods to be used. The critical realism view will also influence data collection as well as the analysis, since it stipulates a more clear focus on how decision-makers are influenced by the surrounding context at the same time as it call attention to how decision-makers impact the surrounding context. The rest of this chapter describes and discuss the research design in more detail.
3.2 The Research Design of the Thesis

A research design could be seen as the action taken to fulfil the approach and it specifies the methods and procedures used for collecting and analysing information needed for answering research questions (Zikmund, 2003). The research design in this thesis can be shortly introduced by describing the research model, shown in Figure 3-1. This model describes the research as having input from two sources: Empirical data from sourcing decisions in two organisations, and theory and empirical based propositions about sourcing decisions. The propositions are developed from four different sources. First, a literature survey of sourcing decisions and concepts involved in sourcing decisions. In Figure 3-1 this is described as “a theoretical developed base on concepts involved in sourcing decisions”. Second, general decision-making theories as well as sourcing decision related. Third, results from the study about adoption or non-adoption of application service provision (ASP), as described in Chapter 2. Fourth, interviews made with three CIO’s about how and why they have organised hosting of their software application. As shown in Figure 3-1 these four sources acted as input to development of the initial propositions that are used when describing and explaining sourcing decisions.
Figure 3-1 The research model
The design of this study builds on the approach described in Section 3.1. It can be described as a retrospective empirical case study (Walsham, 1995) consisting of empirical data from sourcing decisions. The chosen research design is case study, and the reason for that is threefold. First, the question and the phenomenon as such demand an empirical investigation. Second, the time available to do the research and access renders it impossible to make an ethnographic study. Third, action research was not suitable because the thesis was made in different settings and was not made with the kind of collaboration that action research demands. My view of action research is that an action researcher proposes something and then tests and evaluates that. In this thesis the collaboration between the researcher and the researched has not been done like that, nor was it planned to be like that. But, the main reason for selecting case study is that case study is “the best” way of describing and explaining a sourcing decision-making process.

Within this case study, the design is empirical as well as conceptual-analytical. An empirical design means, according to Järvinen (1999), that the researcher is interested in theoretical matters as well as reality. A conceptual-analytical study includes the following stages:

Basic assumptions behind constructs are first analyzed; theories, models and frameworks used in previous empirical studies are identified, and logical reasoning is thereafter applied (Järvinen, 1999, p. 8).

The conceptual-analytical part means that I have made a literature survey and used the findings both to guide the collection of data and to analyse the data by the initial propositions. This could be described as applied logical reasoning. The research in this thesis is also influenced by statement from Fitzgerald and Howcroft (1998) that the world is best characterised and described by an interpretive view. The reason for choosing an empirical direction in my thesis is that it is necessary to have an empirical direction when studying organisational decision-making. Findings from the literature study acted as input for the empirical study. The empirical study was then a reflexive study of decision-making in a context where the boundaries between decision-makers, phenomenon and context were unclear, which is in line with the agency–structure problem that critical realism tries to explain as described by Archer (2000).

In deciding on a research design a discussion about theory-testing or theory-building is needed. The choice between theory-testing and theory-building,
when empirically studying the past and the present, depends on whether there is a theory, model or framework guiding our research or if we are developing a new theory based on the collected data. As I see it, the design could be both theory-testing as well as theory-building. This is developed further in Johansson (2003a; 2004a). The final statement is that the research design is a theory-testing design that builds on a theory-building design. This decision can be compared with the statement that Klein (2002) gives about research on application service provision stating that at the moment the research is often a first attempt to identify a new phenomenon. To explain what I mean by this somewhat eclectic standpoint, both building and testing theory in the same research design, the design in my point of departure (Johansson, 2004a) was a theory-building design aiming at identifying and using a couple of different theories and sum up these theories in a model. From this model initial propositions are designed and used to analyse empirical data in this thesis, which means the research could be seen as theory testing. To do this theory testing a retrospective case study has been used. The next section discusses selection of cases, by describing how and why the specific cases were selected.

3.2.1 Selection of Cases for Empirical Data

There are according to Markus (1989) three different basic decisions to consider when selecting cases. First, decide whether the research is theoretical, descriptive, exploratory or prescriptive. Second, if the primary orientation of the case is to build or test a theory. Third, if the research is intended to confirm or disconfirm a theory. The research in this case is descriptive and explanatory and it has the intention of testing, the theory and empirical based, suggested propositions with empirical data and aim at presenting “new” elaborated propositions that further on could be used as developing normative guidelines for sourcing decision-making processes.

The assumptions presented by Markus emphasise that it is the theory or theories that are being tested that should guide the selection of cases. Stake (1995) describes selection from the need of having insight into the question by studying a particular case. In my case the selection was made from interest of why and how organisations decided on the three types of sourcing solutions: Outsourcing, insourcing and internal sourcing.

The research question should guide what specific cases to select. The research questions in this thesis need qualitative, purposeful sampling and collection of
data. Patton (1990) maintains that the logic and power in purposeful sampling lies in selecting information-rich cases, studied in depth. The selection of the cases can be classified as a non-probability, purposive and heterogeneous sampling using Saunders et al.’s (2000) classification. This means that the cases were chosen with the ambition of best answering the research questions.

In the beginning of the selection process I tried to have access to an on-going decision-making process, by contacting service providers investigated in Johansson (2004a). I did this despite that there were difficulties in having access to their customer in that research. After some discussion and some promises that were not fulfilled, I realised that the possibility to take part in an ongoing decision-making process with potential new customers was minimal. The direction was changed and I instead started to look for organisations by myself. In order to be as heterogeneous as possible I searched after organisations that have adopted outsourcing, insourcing or internal sourcing as a sourcing option for hosting of software applications after a reorganisation. In order to do so I searched for articles in magazines and announcements on Internet with a bearing on newly restructuring of organisations regarding sourcing of software applications. I searched for organisations that just recently finalised a sourcing decision and that also would give access to needed data. The aim was to gain access to a recently conducted decision-making process. Relating this to Patton’s (1990) sampling strategies, it can be described as criterion sampling. According to Patton, the logic of criterion sampling is to select cases that meet some predetermined criterion. The criterion in this selection was the three different sourcing options. There was one category that I did not manage to have access to, and that was the insourcing option. I identified one organisation that had made the decision of bringing back earlier outsourced hosting of software applications, but I did not get access to that organisation.

The selected cases from this were four organisations: MeLo, the Storage Company, the Saw Manufacturer and the Furniture Company. These four organisations were chosen as a starting point for generating answers to the research questions. Of these four, MeLo (Posten AB) was the organisation that most recently had finalised a sourcing decision. MeLo was also the only one of these that had decision-makers that were willing to provide me with access to data on the sourcing decision. In the other organisations I made an introducing
interview and it was found during this interview that they did not “have the time” to provide me with information for the thesis.

I continued to search for more organisations that were willing to take part in the thesis and by a coincidence I met a former colleague who advised me to “study the municipality” (Jönköpings Kommun) and when I saw an article in a newspaper about a sourcing decision that was about to be concluded, I contacted the municipality’s CIO and the case was there. The reasons for selecting the municipality were twofold. First, the possibility to have access to a decision-making process and its data. The municipality, the decision-makers and the people working at the municipality were all extremely willing to share their information. It is also in that way that there exists a lot of documentation around the decision that I had totally access to. The project leader of the decision-making process was also very interested in having a thorough description of the decision-making process. This supports one of the expected contributions which state the importance of describing decision-making in order for decision-makers to make better decisions. Access to decision-makers is hard to have according to Saunders et al. (2000), who say that although it looks very fashionable to study decision-making processes, one should be careful when choosing that kind of subject because of difficulties with access to empirical data. I saw the municipality as a very good source for getting in contact with decision-makers and to a decision-making process. Second, the organisation had precisely at the time of my data collection finalised the decision-making process where they decided on how to organise hosting of their software applications. The municipality finalised the decision just two weeks before my first contact with the municipality’s CIO, who were project leader for the decision process, and just one month before the first interview. This means that the information from decision-makers was “fresh” and therefore has the potential to be able to provide me with relevant data answering the research questions. The predetermined criterion (Patton, 1990) for the choice was the recently finished decision-making process and the possibility to have access to that. MeLo also fulfilled this since I got access to a final report that described MeLo’s sourcing decision extensively.

3.2.2 Selection of Methods for Collection of Empirical Data

The research question is why and how, and as stated earlier case study is found to be most appropriate. It is important to note that case study can involve either qualitative data or quantitative data, or both (Yin, 1989a). This thesis argues
that the question is best answered by qualitative data collected from documents and interviews. The primary method for collecting data in this case study is semi-structured interviews. Data are also collected from the investigated organisations’ websites, reports from the sourcing decision process, annual reports from investigated organisations, and other documentation from investigated organisations sourcing decisions, like project plans and project reports. The total amount of documented pages used in the investigation is 1,426 (Appendix C). Eisenhardt (1989b) states that the use of multiple data collection methods makes it possible to triangulate, which provides the findings with more substance and makes them stronger. The different sources of data have made it possible to for instance compare statements in the interview with statements in documents, which could be described as data source triangulation (Stake, 1995).

The reason for choosing interviews as the main method builds on the assumption that having answers on the research question needs face to face interaction with the possibility to ask follow up questions. It can be stated that deciding on a specific sourcing option has various dimensions. These dimensions are hard to establish in a questionnaire. If you, for instance, put the direct question to a decision-maker in an organisation, “What made you decide to use that sourcing option?” you will probably receive an answer, but is that answer valid? The respondent’s answer is perhaps adapted to satisfy you or to sound good. If using a questionnaire you could probably develop your questions in such a way that this is taken care of. But you do not have the possibility to ask follow-up questions directly. In an interview situation you have that possibility. In the thesis I have also used the possibility to compare statements made in interviews with the information received in the documentation.

Another reason for choosing interviews as the main way of collecting data is that decisions about using a specific sourcing option are made by humans. Humans are part of a social reality and are influenced by their surroundings. They have their inter-subjective ideas and various factors could have influenced them when they made the decision. One and probably the best way to be up to date with what it was that influenced them to make the decision are to have them talk about the decision. You should ask open questions, so that they talk and give you information around the decision. This means that you have to make the respondent talk about when and where they made the
Chapter 3 – Research Approach

decision, to whom they talked, and what material they had to support the decision. You also need to be acquainted with how the decision-makers were thinking, arguing, perceiving, reflecting and acting in the decision-making process. This can be described as having a connection to the context, which Alvesson and Deetz (2000) describe as a benefit with interviews. It can also be related to the agency-structure discussion that critical realism focuses on. To deal with this, mostly semi-structured open-ended interviews have been used.

In addition to the interviews there has been communication with respondents afterwards by phone and e-mail to clear up misunderstandings and to ask questions to verify the information received in the interview. The next section describes the collection of empirical data in more detail.

3.2.3 Collection of Empirical Data

Empirical data was collected from two different sources, interviews and documents. All interviews were made as semi-structured interviews and followed a set of questions that are shown in Appendix B. These questions were generated from the theoretical ground which is described in Chapter 4. The interviews were recorded on a digital audio-recorder. In addition to the audio-recording there were notes taken during the interviews. By using audio-recording I could focus on what the respondent said and thereby be able to direct following-up questions in an effective and direct way. The interviews made in MeLo and the municipality were transcribed. Table 3-1 shows the interviews made with decision-makers in MeLo.

Table 3-1 Interviews with decision-makers at MeLo

<table>
<thead>
<tr>
<th>Date</th>
<th>Role of Respondent</th>
<th>Type of interview</th>
<th>Documentation</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>22 Nov 2004</td>
<td>IT manager</td>
<td>Semi-structured open-ended</td>
<td>Audio-recorded Transcribed</td>
<td>Two and a half hours</td>
</tr>
<tr>
<td>22 Nov 2004</td>
<td>Chief Controller</td>
<td>Semi-structured open-ended</td>
<td>Audio-recorded Transcribed</td>
<td>Two and a half hours</td>
</tr>
<tr>
<td>10 Sept 2006</td>
<td>IT manager</td>
<td>Semi-structured open-ended</td>
<td>Audio-recorded Transcribed</td>
<td>Three hours</td>
</tr>
</tbody>
</table>

Table 3-2 shows the interviews made with CIO’s at the Storage Company, the Saw Manufacturer, and the Furniture Company. Data collected in the interviews made with the CIO’s described in Table 3-2 aimed at describing how and why these organisations have organised hosting of software
applications as they have. The purpose of the interviews was also to investigate if the organisations could be suitable for a more in-depth study. It was found that they were not and the reason was that the interviewees expressed that they did not have the possibility to provide me with necessary information. Despite that the interviews provided me with useful input for the development of the initial propositions and some input on factors interesting to look further into. The factors the interviews raised were control and the influence a specific decision-maker can have on how organisations decide in a sourcing decision. I also asked if other possible options were investigated and if so why these not were chosen. This means that these interviews provided me with useful information on the overall research question.

Table 3-2 Interviews made with CIO’s

<table>
<thead>
<tr>
<th>Date</th>
<th>Organisation</th>
<th>Role of Respondent</th>
<th>Type of interview</th>
<th>Documentation</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Nov 2004</td>
<td>The Storage Company</td>
<td>CIO</td>
<td>Semi-structured open-ended</td>
<td>Audio-recorded</td>
<td>Two hours</td>
</tr>
<tr>
<td>26 Nov 2004</td>
<td>The Saw Manufacturer</td>
<td>CIO</td>
<td>Semi-structured open-ended</td>
<td>Audio-recorded</td>
<td>Two hours</td>
</tr>
<tr>
<td>25 Jan 2005</td>
<td>The Furniture Company</td>
<td>CIO</td>
<td>Semi-structured open-ended</td>
<td>Audio-recorded</td>
<td>Two hours</td>
</tr>
</tbody>
</table>

The interviews made in the municipality are shown in Table 3-3. The CIO at the municipality provided me with a list of those who had been involved in the sourcing decision. This list worked as input for whom to interview. During the interview I also asked the CIO who I should talk to and do interviews with to have as much information as possible about the decision-making process. This can to some extent be likened with snowball or chain sampling strategies as described by Patton (1990). The list followed the sourcing decision project organisation shown in Figure 3-2.

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3 Figure 3-2 will be described in more detail in Section 7.2.3
The people involved in the municipality’s sourcing decision was divided into groups as described in Figure 3-2, and interviews were made with representative from each of these groups. In Figure 3-2 the number of people involved is shown and the number in the brackets shows how many of these who were interviewed. Some of the interviewees were involved in more than one group as shown in Table 3-3. When choosing with whom to do interviews, my ambition was to interview those who were involved in several parts of the sourcing decision. The CIO of the municipality was therefore the obvious starting point. The next group of people to interview were the ones who were project leaders for the sub-projects. They were also involved in the project leader group. In the project leader group there was a person who acted as project coordinator and as a secretary for the entire project. He was also involved in the reference group. In addition to these interviews, representatives from the reference group and the steering committee group were made. The steering committee included, besides the interviewed, managing directors of other offices at the municipality, a staff manager from the urban office and a managing director of the economy from the urban office. The reason for not doing more interviews within this group was difficulties regarding finding suitable times for them to be interviewed. But also because I found that new insights into the decision-making process would probably not be gained by doing more interviews. The interviewees also included one of the five municipal commissioners in the municipality. After having done these interviews I felt like I had a good overview of the municipality’s sourcing decision-making process. At this moment I felt the saturation that for instance Eisenhardt (1989b) talks about, and the last interview did not add anything new.
Table 3-3 Interviews with decision-makers in the municipality

<table>
<thead>
<tr>
<th>Date</th>
<th>Department</th>
<th>Role of Respondent</th>
<th>Respondent’s role/roles in the sourcing decision (Figure 3-2)</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>17 Jan 2005</td>
<td>Urban office</td>
<td>CIO</td>
<td>Project leader (involved in more or less all parts of the sourcing decision)</td>
<td>One and a half hour</td>
</tr>
<tr>
<td>21 Jan 2005</td>
<td>Urban office</td>
<td>Managing director of telephony</td>
<td>Project leader for the sub-project Telephony, part of the project leader group</td>
<td>One and a half hour</td>
</tr>
<tr>
<td>21 Jan 2005</td>
<td>School and Childcare office</td>
<td>Leader of ICT development</td>
<td>Project leader for the sub-project user support, part of the project leader group and the working group</td>
<td>Two and a half hour</td>
</tr>
<tr>
<td>24 Jan 2005</td>
<td>Social Welfare office</td>
<td>IT manager</td>
<td>Project leader for the sub-project Technical Infrastructure, part of the project group and the working group</td>
<td>One and a half hour</td>
</tr>
<tr>
<td>26 Jan 2005</td>
<td>Urban office</td>
<td>CEO</td>
<td>Chairman of the steering committee</td>
<td>One and a half hour</td>
</tr>
<tr>
<td>27 Jan 2005</td>
<td>Urban office</td>
<td>Project coordinator</td>
<td>Project coordinator for the sourcing decision (involved in more or less all parts of the sourcing decision)</td>
<td>One and a half hour</td>
</tr>
<tr>
<td>27 Jan 2005</td>
<td>Urban office</td>
<td>Project leader</td>
<td>Project leader for sub-projects communication and premises, part of the project leader group and the working group</td>
<td>One and a half hour</td>
</tr>
<tr>
<td>3 Feb 2005</td>
<td>Social Welfare office</td>
<td>Responsible for the software application “Social Welfare”</td>
<td>Part of reference groups software applications responsible and reference group Union</td>
<td>One hour</td>
</tr>
<tr>
<td>3 Feb 2005</td>
<td>Social Welfare office</td>
<td>Responsible for the software application “Elderly Care”</td>
<td>Part of the reference group software applications responsible</td>
<td>Half hour</td>
</tr>
<tr>
<td>4 Feb 2005</td>
<td>Social Welfare office</td>
<td>Managing Director</td>
<td>Part of the steering committee</td>
<td>One and a half hour</td>
</tr>
<tr>
<td>4 Feb 2005</td>
<td>Urban office</td>
<td>Municipal Commissioner</td>
<td>Not directly involved in the sourcing decision project, but responsible for the political area that the sourcing decision belongs to</td>
<td>One hour</td>
</tr>
</tbody>
</table>

In parallel with the interviews I aimed at acquaint myself with available documents and collect those that documented the sourcing decision project. At the municipality almost everything is documented which means that there are a
lot of documents. The municipality allowed me to have access to its entire collection of documents through a website intended for internal use. The project had its own directory on that website, where all documentation that had been generated and used during the project was stored. This source of information provided me with a good possibility to validate information received in the interviews. But, also to deepen the knowledge of how the decision-making process was conducted and why the outcomes at different stages in the process were what they were.

An important remark to make is that the number of interviews differs between the two cases. However, it can be said that despite the fact that they quantitative differ they are qualitatively more equal. The main reason for this is that the interviews in MeLo were more focused, but also that MeLo’s final report on the outsourcing made it possible to make comparisons between statements made by the interviewees and the written documentation. The next section will describe and discuss how the analysis was done.

3.2.4 Analysing the Data

An important decision to make when analysing something is to have a clear view over the unit of analysis. According to Yin (1989b) the unit of analysis is the phenomenon you will say something about. This differs from the selection of cases since the aim of using cases is to provide you with the data you are going to say something about. Decisions about what unit of analysis will be used affect the sampling method (Patton, 1990). Yin maintains that the unit of analysis is fundamental for research, since it is related to the problem of defining what the “case” is. The definition of the unit of analysis in the actual case is related to the way the initial research question is defined. Patton states:

The key issue in selecting and making decisions about the appropriate unit of analysis is to decide what it is you want to be able to say something about at the end of the study (Patton, 1990, p. 168)

The unit of analysis in this thesis is the decision-making process. What I will say about the process could be separated into three parts. First, why the sourcing decision was started. Second, how the sourcing decision was made. And, third, what relations are there between why and how factors in a sourcing decision. Generally, the organisations in the study could be seen as the unit of analysis. This could be broken down further into decision-makers and decision-
making processes in the organisation. Consequently, the unit of analysis is the
decision-making process and the sourcing decision made.

As Alvesson and Deetz (2000) express it, interviews are undoubtedly the most
common qualitative method. They also say that interviews call for careful
critical reflection. The approach for analysis were a qualitative content analysis
as described by Krippendorff (2004). The interviews were transcribed and
transcriptions were compared with the other documentations. The documents
and the interview transcriptions were also coded by writing down keywords in
the margin. The factors suggested as influential in sourcing decisions were used
as keywords, but also words like decision were used. The aim of this was to
sort the text and thereby be able to get an understanding of what actually
happens in a sourcing decision and why. Some expressions that the respondents
gave, that I saw as important were translated into English and told as close to
the original language as possible in the form of citations in Chapter 7 and 8.

The analysis can be said to be a within-case analysis (Eisenhardt, 1989b) as
well as a between-case analysis. This means that the analysis involves detailed
write-ups for each case. These write-ups are presented in Chapter 7. The
analysis of the write-ups was then made from the initial propositions presented
in Chapter 5 and 6. As described by Stake (1995), analysis is not something
that is done in one single step. In my case the analysis started already during
the interviews in the sense that I started to interpret what respondents told me
more or less directly. The “early” start of interpretation is also supported by
Stake (1995), who says that qualitative analysis to a great extent is
interpretation. Stake describes two strategies for the analysis to arrive at new
meanings from a case study: Categorical aggregation and direct interpretation.
The way I have done the analysis is mostly related to direct interpretation. This
is also the way Krippendorff (2004) describes how qualitative content analysis
is made. This means that the analysis has been done in parallel with writing up
the cases in Chapter 7 and the analysis in Chapter 8. Categorical aggregation
has played some role since the documents and transcriptions have been coded
to some extent to help me find patterns between statements and to be able to
conduct a cross search. The aim of the write-ups of the different cases is to
become familiar with each of them as a stand-alone entity (Eisenhardt, 1989a).
By comparing the descriptions of the sourcing decisions with each other a cross
search for patterns was conducted, in the form of a between-case analysis,
which emphasised on similarities and differences between the cases. The next
section discusses an important part in all research and something that has to be done the whole time and that is the literature review.

3.2.5 Reviewing the Literature

An important step in research project like this is to critically review relevant literature (Hart, 1998; Saunders et al., 2000). According to Saunders et al. there are two major reasons for reviewing the literature. First, in order to generate and refine ones research questions. Second, in order to be aware of what knowledge that exists in the area of the research and its limitations and how your research fits into this wider context. In order to make a critical and meaningful literature review I used a relevance tree. A relevance tree according to Hart (1998) helps the researcher to be more focused on the subject and is a way of mapping subjects to sub-subjects and so on. However, before the development of the relevance tree was done I have made a major part of the literature review. This means that the relevance tree was conducted when I have arrived halfway on the upward spiral that a literature review can be likened with (Saunders et al., 2000). The relevance tree is shown in Appendix A. According to Saunders et al. the purpose of the literature review can differ and it differs regarding what intention you have with the review. In my case the intention was in addition to fulfilling the two reasons that Saunders et al. suggests also to use it for the analysis of my empirical data. The literature review resulted in the initial propositions described in Chapter 5 and 6.

3.2.6 Ensuring Quality

The analysis in the thesis builds to a great extent on the initial propositions presented in Chapter 5 and 6. The propositions were developed from the literature review and from the findings in Johansson (2004a). This means that they were influenced by empirical data and probably had some impact on the data collection. The findings from Johansson (2004a) worked as input to the development of the propositions, which means that the data are meaningful in relation to propositions. The main idea with the propositions was to use them as a tool for analysing the empirical data. This leads over to Eisenhardt’s (1989b) discussion about enfolding literature and reaching closure in a case study. Literature has been studied all the time during the research process. This implies that at a certain point one has to adopt a standpoint and write down what one knows. Eisenhardt argues that linking to literature is especially important if the research is done within a small number of cases. This is also
connected with the step of reaching closure. My view on this is that when someone examines a decision-making process there is probably always the possibility to add another case or enfold more literature. My approach to manage when to stop adding more cases as well as more literature and reaching closure has been related to the output of my research. This means that the “stop” has been my decision and that decision is taken from my impression of the contribution of the thesis. In order to get some help with making this decision I have in different ways tried to acquaint other researchers with my research, and the intention of this have been to have feedback from other researcher. To do that I have been to two PhD summer schools, Design and Management of IT (DMIT, 2001 and 2002) and on both occasions presented my research subject and how to do the research. I have also been at three PhD consortiums, ALOIS DC 2001, VITS DC 2003 and ECIS DC 2003, and also there presented my subject and how to research it. In addition to that I have presented papers at 15 conferences (Bergkvist & Johansson, 2006; Johansson, 2001, 2002, 2003a, 2003b, 2004b, 2004c, 2004d, 2004e, 2005a, 2005b, 2006a, 2006b; Johansson & Carlsson, 2002; Johansson & Carlsson, 2003) All these have had the aim of providing feedback on my work as well as secure quality in the process, but also to be acquainted with where research on the subject stands at the moment. This can be described as triangulation in the form of theory triangulation, by having feedback on theory, as well as investigator triangulation, by having feedback on my process (Stake, 1995).

Eisenhardt (1989a) describes two issues important for reaching closure. The first is when to stop adding cases. The second is when to stop iterating between data and theory. Both these issues are about when saturation is reached. This means that one should stop adding cases when an additional case would improve the result only minimally. It also means that the iteration between data and theory should stop when iteration only would improve the result minimally. These are difficult issues to handle, involving questions of reliability, validity and the ability to generalise, which is discussed in the last chapter, Chapter 9.

3.3 Chapter Summary

This chapter has presented and discussed research approach, research design and research methods and in that way presented what has been done. This has been done through the presentation of how the research has been conducted, and why it was done in that way. The research is a retrospective case study
Chapter 3 – Research Approach

aiming at describing why and how sourcing decisions are made. The research approach builds on an ontological and epistemological standpoint that argues for critical realism and that means that the thesis focuses on the relation between agency and structure. The research design is described as being both conceptual-analytic as well as empirical. The thesis builds to a great extent on suggested initial propositions that are developed from four different sources, earlier made research about adoption or non adoption about a specific sourcing option, literature on sourcing decisions and factors involved in sourcing decisions, theories on decision-making, and interviews with CIOs. The initial propositions are then tested with empirical data from two organisations’ sourcing decisions. The data from these sourcing decisions have been collected by using semi-structured interviews with decision-makers as well as from sourcing decisions documentation. The analysis can be described as direct interpretation with some influences from categorical aggregation, and made as a qualitative content analysis consisting of detailed write-ups of the organisations sourcing decisions. The aim of the analysis was to find patterns of why and how sourcing decisions are made in organisations, and the thesis is descriptive and explanatory and it has the intention of testing, the theory and empirical based, suggested initial propositions with empirical data and aim at presenting “new” elaborated propositions that further on could be used as developing normative guidelines for sourcing decision-making processes.
Part II – Theorising Sourcing Decisions – Why and How Sourcing Decisions are Made

Part II aims at giving a theoretical ground to be used for describing and explaining sourcing decisions. Chapter 4 starts with defining critical concepts and factors for describing and explaining sourcing decisions using mainly the resource-based view of the firm. Chapter 5 discusses why sourcing decisions are initiated. Finally, Chapter 6 discusses how sourcing decisions are made. Both Chapter 5 and Chapter 6 end with initial propositions that later on are used in the analysis of sourcing decisions in Chapter 8.

Do what you feel in your heart to be right – for you’ll be criticized anyway.
You’ll be damned if you do, and damned if you don’t
(Eleanor Roosevelt)
Chapter 4 – Critical Concepts and Factors Involved in Sourcing Decisions

This chapter discusses and defines critical concepts and factors for describing and explaining sourcing decisions. It does so by using transaction cost theory, agency cost theory, resource dependency theory and the resource-based view of the firm. Important concepts to define are resources, capabilities and competencies. The chapter also describes the relationships between these concepts. The resource-based view plays an important role in explaining relationships between these concepts and sourcing decisions. The aim of the chapter is to build a solid theoretical base for analysing sourcing decisions. That theoretical base will be used in Chapter 5 and Chapter 6 as a foundation for the initial propositions that then, in Chapter 8, will be used for analysing why and how sourcing decisions are made.

4.1 A Theoretical Base for Describing Sourcing Decisions

This thesis is about organisation and reorganisation of resource localisation in the form of deciding on sourcing option for hosting of software applications. I would say that sourcing decisions to a high extent involves resources, capabilities and competencies and therefore are these important concepts to define in the thesis. These concepts are crucial to the resource-based view of the firm as described by Barney (Barney, 1991, 1994, 2002), Mata et al. (1995) and Wernerfelt (1984), and that is why this view will play an important role as a theoretical base, and why it will be used to some extent for describing and explaining concepts involved in sourcing decisions. The choice is informed by the result from my licentiate thesis (Johansson, 2004a) that were summarized in Chapter 2. In that thesis transaction cost theory (Williamson, 1975, 1985), agency cost theory (Eisenhardt, 1989a), resource dependency theory (Pfeffer & Salancik, 2003), and the resource-based view (Barney, 1991) were used. These theories, as described by for instance Lee, Huynh, Chi-wai and Pi (2000), Dibbern et al., (2004), Cheon et al., (1995), focus on different issues, and thereby they describe and explain a sourcing decision in different ways.

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4 Some authors label the resource-based view as resource-based theory; I use the resource-based view which is most common.
Deciding on Sourcing Option for Hosting of Software Applications

The result from that thesis (Johansson, 2004a) in addition with findings from Bharadwaj (2000), Lee et al., (2000), Dibbern et al., (2004), and Cheon et al., (1995) indicate to me that the resource-based view will be the most fruitful to adopt more extensively when defining concepts involved in a sourcing decision process. The resource-based view and the way it integrates a management perspective with an economics perspective, as described by Peteraf and Barney (2003), seems to make it a suitable choice for defining involved concepts. It is also found that research about sourcing using the resource-based view of the firm are sparse (Dibbern et al., 2004), despite that this theory is suitable for dealing with strategic questions and resource allocation. The resource-based view is to Conner (1991) a strategic management approach focusing on resource allocation emphasising economic performance and competitive advantage in markets. The aim of the resource-based view is to describe and explain sources of competitive advantage and how advantages are created and sustained over time. Despite that the organisations investigated in the thesis do not compete in a perfect market, I would argue that the resource-based view could be used for defining the involved concepts. Sourcing decisions are to a high extent a resource-based matter since such decisions deals with how to manage and coordinate usage of software applications with the attempt of improving business processes in an organisation. The next section will deepen the description of resources, capabilities and competencies by relating them to the resource-based view.

4.2 Resources, Capabilities and Competencies

Resources, capabilities and competencies are all crucial concepts when describing and explaining sourcing decision in which organisations decide on hosting of software applications. This section aims to define these concepts and the relationship between them. The resource-based view describes an organisation as a collection of productive resources. The central assumption is that organisations gain competitive advantage by their internal resources (Peteraf & Barney, 2003). The core issue in resource-based view is how to identify and exploit existing resources more effectively in the organisation (Hedman & Kalling, 2002). Barney (1991) states that in order to avoid confusion about basic assumptions in the resource-based view of the firm, there are three concepts that needs to be defined. These are resources, competitive advantage and sustained competitive advantage. In order to make it easier to
understand the definition of these concepts, the resource-based framework as presented by Barney (1991) is shown in Figure 4-1.

![Figure 4-1 The relationship between resource heterogeneity and immobility, and sustained competitive advantage (Barney, 1991, p. 112)](image)

In Figure 4-1 the basic assumptions of heterogeneity and immobility are shown on the left side. Basic assumptions in the resource-based view are that resources have the possibility to sustain heterogenic and also that they can be immobile. These assumptions are connected to four attributes of resources, value, rareness, imperfect imitability and substitutability. The model suggests that if certain criteria of the resource attributes are fulfilled, the resources make it possible for organisations having control over the resources, to receive sustained competitive advantage. It is dependent to a high degree of how resources are organised, as shown in the VRIO framework (Barney & Wright, 1998). The VRIO framework, shown in Table 4-1 p. 68, indicates that there are relations between resources, how resources are organised, and how organisations gain competitive advantage. This will be described in more detail in Section 4.2.4. But, first will relations between resources, capabilities and competencies be discussed. The reason for this is that there is a need to have a more clear definition of resources and capability first. Figure 4-2 works as an introduction to the discussion about the relationship between resources, capabilities, competencies, and core competencies.
What Figure 4-2 illustrates is that competencies build on capabilities which, in turn, build on availability of resources. According to Javidan (1998) resources are the building blocks of competencies. This means that to be competent, you need the capability and this is not possible without having the necessary resources available. The figure also suggests that complexity increases from resources via capabilities through competencies. This indicates that it is not enough with just access to resources for an organisation to be capable and it is not enough with just having capabilities to be competent. The following sections will further describe the relationship between resources, capabilities and competence in relation to software applications.

4.2.1 Resources and Software Applications

There are many definitions suggesting what resources are and are not. Bharadwaj (2000) contends that the resource concept includes assets, knowledge, capabilities and organisational processes. Wernerfelt (1984) defines resources as including anything that could be thought of as a strength or weakness for an organisation. Barney (1991) differentiates between three different groups of resources: Physical resources, human resources and organisational resources. The difficult question when describing software applications as resources is that they in a way belong to the whole spectra of resource typologies as described by Barney (1991), Teece, Pisano and Shuen (1997) and Kalling and Styhre (1999). Software applications as resources include elements of physical, human, organisational, tangible, intangible and cognitive character. In a sourcing decision the resources described as physical (Barney, 1991; Kalling & Styhre, 1999) or described as tangible (Teece et al., 1997) are the ones who are easy to move. This can also be said for the
resources that are described as organizational by Barney (1991). In the resource-based view a resource must be considered valuable for the organisation in order to be called resource. Valuable in this context means that the resource enables the organisation to conceive or implement strategies that improve efficiency and effectiveness in the organisation.

A main critique against the resource-based view is that the theory is seen as tautological (Peteraf & Barney, 2003), which depends to a great extent on its definition of resources. According to Peteraf and Barney (2003), the misunderstanding of the resource-based view results from an incorrectly definition of resources. They claim that resources are, when raising the tautology problem, defined in terms of performance outcomes associated with the resources, which certainly makes it tautological. This can be described in the following way: If an organisation has resources, it also has the performance, and in order to have performance the organisation needs resources. Porter describes it in the following way:

At its worst, the resource-based view is circular. Successful firms are successful because they have unique resources. They should nurture these resources to be successful (Porter, 1991, p. 108).

According to Peteraf and Barney resources are not defined in terms of value. Instead, they say that there is a difference in the definition between resources and critical resources. Barney defines resources in the following way:

Firm resources include all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm (Barney, 1991, p. 101).

Also Porter (1991) defends the resource-based view and states that resources are not valuable as such. He also says that resources are only meaningful in the context of performing certain activities and thereby allow the organisation to achieve competitive advantage through these activities. The problem with the definition by Barney and thereby the aim of making organisations more efficient and effective is that the definition covers everything in the organisation.

That software applications belong to the whole spectra of resource categories makes it harder to decide on for instance how it should be organised. To deal with these difficulties, Barney discusses strategically relevant resources. This is in line with the definition of critical resources given by Peteraf and Barney.
Critical resources are something that according to Peteraf and Barney has a positive effect on costs or benefits associated with a product. Since value is defined by Peteraf and Barney in terms of a product’s costs and benefits, critical resources certainly affect the value an organisation can generate. They exemplify this by stating that a critical resource can have a positive effect on perceived benefits, but be very costly to make use of. Critical resources are defined as critical in two aspects by Peteraf and Barney (2003). First, they are described as essential to an organisation’s effort to generate greater value compared to its competitors. Second, they are a limiting factor regarding how big part of the market the organisation can satisfy. Using the definition by Peteraf and Barney results in the following statement: If an organisation has critical resources, it also has the possibility to increase its performance, and in order to increase performance, the organisation needs to have control over critical resources. From this I would say by referring to Oz (2005) as well as Lundeberg, Mårtensson and Mähring (2006) that software applications can be seen as critical resources. The question is then how this is related to capability.

4.2.2 Capabilities and Software Applications

Capabilities

As described in Figure 4-2, there is a relation between resources and capabilities. These concepts are used interchangeable according to Barney (2002), and there is no clear description of differences between these concepts. Kalling (1999) states that it is the same when it comes to definitions about capabilities as it is when it comes to definitions about resources, and that is that definitions is numerous. The main criticism against the resource-based view is also present when it comes to capability, for instance states Barney (1991) that managing a resource is a resource in itself. According to Kalling (1999), it is fruitful to distinguish between resources and the ability to manage resources. This means that capabilities could be seen as abilities in organisations to create and use resources in order to improve performance. Amit and Schoemaker define capabilities as:

A firm’s capacity to deploy resources, usually in combination, using organisational processes, to effect a desired end (Amit & Schoemaker, 1993, p. 35).

The resource-based view, according to Bharadwaj, Sambamurthy and Zmud (1999), make a distinction between resources and capabilities. Bharadwaj et al., say that capabilities are hard to imitate because capabilities are closely connected to history, culture and experience of the organisation. This can be
compared with Porter’s (1991) description of initial conditions making resources and uses of resources hard to imitate. When it comes to software applications capability there is a need to distinguish between at least three different types of capability: theoretical, practical and technical. The theoretical and practical capability could be described as more or less the same and as the ability users have to use and manage software applications, or in other words “what the user could do with the software”. This means that one type of software applications capability could be described as the users’ ability of using the software. The technical capability of software applications could then be described as “what the software could do” or what possibilities the software has. This can be described as capability gained from the usage but also capability that not is experienced and if that is a fact it could be said that the software capability as such is not the limitation, instead the limitation is connected to users’ ability to use the software. This discussion about technical capability and theoretical/practical capability connected to software applications can be related to statements by Hedman and Kalling (2002) as well as Lundeberg et al., (2006) and their description of either capability that the actual resource has and/or capability as an ability to use it. From this it can be said that software applications can have capability and at the same time can other resources (human resources) have the ability to use software applications. If using the statement by Hedman and Kalling and distinguishing between capability gained from usage of software applications and capability about how to use software applications, it can be proposed that received software applications capability is dependent on the capability that the software has, but, probably mostly from users’ ability of how to use software applications. The latter could be described as resource management. Kalling (1999) suggests that capabilities as a concept are “broader” than resources and that capabilities include managerial and organisational solutions needed in order to utilise the full potential of a resource. From this it can be described that software applications capability can be broadly described as gained capability or capability about how to use software applications. It can also be said that if the capability about how to use software applications becomes higher then gained capability from usage increases. The question is then how capability is related to competence and core competence which the next section will discuss.
4.2.3 Competence, Core Competence and Software Applications

As shown in Figure 4-2, p. 62, Javidan (1998) suggests that competence is at the third level in the hierarchy going from resources through core competencies. The suggestion he makes is that competence is a cross-functional integration of capabilities. This means that competencies are a set of skills and know-how’s in an organisation. Core competencies are described by Javidan as shared skills and as a result from integration and harmonization of competencies. Prahalad and Hamel (1990) state core competence is the collective learning in organisations, especially the way organisations coordinate production skills and integrate multiple streams of technologies. Quinn and Hilmer (1994) define core competence as the specific skills the organisation have or must have to create unique value for customers. Axelsson and Wynstra define core competence as:

The most critical and most distinctive resources a company controls and which are the hardest for others to copy when they are in a number of processes connected to the relevant strategic goals which the company pursues (Axelsson & Wynstra, 2002, p. 72).

According to Prahalad and Hamel (1990), there are three ways to identify an organisation’s core competence. First, if it provides potential access to a wide variety of markets. Second, if it makes a significant contribution to perceived customer benefits of the end product. Third, if it is difficult for competitors to imitate. Javidan (1998) presents a different view on core competence, saying that Prahald and Hamel see the planning process as an inside-out approach, meaning that decision-makers start with an analysis of internal resources. Javidan argues that in the typical planning process organisations do an outside-in analysis which starts with an analysis of external threats and opportunities.

It can be proposed from the discussion of core competence that if a resource is evenly distributed across competing organisations and is highly mobile, it does not influence sustained competitive advantage. Mata et al. (1995) say that an organisation’s bid to gain competitive advantage from software applications depends on how it manages resources. If software applications are seen as a resource of which the organisation has enough knowledge and which it can handle in an efficient and effective way, it should not been outsourced. But, whether the organisation’s software application is handled internally or externally does not alone give the organisation competitive advantage. This indicates that even if software applications is seen as part of the organisation’s
core competence, it can be outsourced and can provide competitive advantage if it is managed and used in a professional way. According to Prahalad and Hamel (1990), an organisation can misunderstand its competitor’s core competence if only looking at the competitor’s end product. The same can be true for organisations themselves. If they just see the end product as their core competence they probably will not focus on the right things.

From the statements by Fine and Whitney (1999) as well as from Mata et al. (1995) and Quinn and Hilmer (1994) it can be suggested it is possible to use external providers for main parts of the organisations products. According to Fine and Whitney there are two different directions for organisations to focus its core competence. The first is to concentrate on what they feel they do well and focus on the value of the product. The second is to concentrate on maintaining as high control of the process design and production chain as possible. This latter strategy means that the organisation has realised how hard it is to learn how to do well and see outsourcing as a way of receiving knowledge of that. Quinn and Hilmer (1994) stipulate that the organisation can increase the competitive advantage by concentrating on resources which provide unique value for customers, and outsource all other activities. This directs to the next section that will discuss competitive advantage and software applications.

4.2.4 Competitive Advantage and Software Applications

An important distinction in resource-based view is that if a resource should provide organisations with sustained competitive advantage there are different attributes for the resources that have to be fulfilled. According to Hedman and Kalling (2002), there is numerous resource attributes described in the resource-based view literature that give a firm its competitive advantage. Barney (Barney, 1991, 2002) as well as Cheon et al. (1995) and Hedman and Kalling (2002) identify the following four attributes as relevant: Valuable, rare, costly to imitate, and efficiently organised. These attributes constitute the base in the VRIO framework described in Table 4-1. The intention of the VRIO framework, where VRIO stands for value, rareness, imitability and organisation, is to identify what resources that provide sustained competitive advantage and what resources that do not provide sustained competitive advantage.
Table 4-1 The VRIO framework (Barney, 2002, p. 173)

<table>
<thead>
<tr>
<th>Is a resource or capability…</th>
<th>Valuable?</th>
<th>Rare?</th>
<th>Costly to Imitate?</th>
<th>Exploited by Organisation?</th>
<th>Competitive Implications</th>
<th>Economic Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>---</td>
<td>---</td>
<td>No</td>
<td>No</td>
<td>Competitive Disadvantage</td>
<td>Below Normal</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>---</td>
<td></td>
<td></td>
<td>Competitive Parity</td>
<td>Normal</td>
</tr>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
<td>Temporary Competitive Advantage</td>
<td>Above Normal</td>
</tr>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td>Sustained Competitive Advantage</td>
<td>Above Normal</td>
</tr>
</tbody>
</table>

The VRIO framework aims at identifying resources with potential for having sustained competitive advantage by answering the questions, is a resource or capability... If all answers are answered affirmative, the specific resource has the potential to deliver sustained competitive advantage to the organisation. However, to do that, it has to be efficient and effectively organised. Barney (2002) describes this as exploiting the resource. If the organisation is a first-mover in the sense that it is the first organisation that uses this type of resource in that specific way, it can quite easily receive competitive advantage, but, it can be temporary. How long time the competitive advantage lasts is a question of how hard it is for others to imitate the usage of that resource. This means that the question of how resources are exploited by the organisation is the main factor when it comes to if the competitive advantage becomes sustainable or not. When it comes to sourcing decision and hosting of software applications, my conclusion is that exploited by organisation could be seen as how hosting of software applications are organised, and could be seen as having effective governance and/or control over software applications usage.

According to Barney (1991) a resource is valuable if it enables the organisation to implement strategies that improve its efficiency and effectiveness. The statement that Barney (1991) gives is contradictory. He says that a resource must be valuable if it should be called resource. The first question, if a resource is valuable, seems to be meaningless if the basic assumption is that the resource
has to be valuable if it should be a resource. In Barney and Wright (1998) it is said that value is created by either decreasing the costs for producing the products or the services, or having the possibility of increasing the price for its products or services. This is very much in line with the basic thoughts about the value-chain as described by Porter (1985).

Rareness is defined as scarcity of resources according to Barney (2002). It is not enough with rareness for a specific resource to deliver competitive advantage. According to Peteraf and Barney (2003), the cost of using that specific resource could be so high that the costs exceed the potential benefits. It could also be that the specific resource could be used in another context that provides that organisation with a higher net benefit. This is described by Peteraf and Barney as that the resource has a higher opportunity cost of employing between different contexts. This means that how rare a valuable resource needs to be in order to provide the organisation with competitive advantage varies between situations (Barney, 2002). Important to remember when it comes to rareness is that if a specific resource is not rare, it cannot provide the organisation with sustained competitive advantage. But, it can provide the organisation with competitive disadvantage if the organisation chooses not to use that specific resource if the organisation’s competitors use that resource. Software application usage is probably one occasion where this could happen. Web-sites for organisations could exemplify this, having a web-site does not always gives a competitive advantage but, it can do, on the other hand not having a web-site could provide the organisation with disadvantage since, more or less, all organisations have a web-site.

If a resource is found valuable and rare, it is not evident that it provides sustainable competitive advantage. According to the VRIO framework, the resource could be said to deliver temporarily competitive advantage. To deliver sustained competitive advantage, the resource needs to have the attribute of being difficult to imitate. There are two different ways for an organisation to imitate resources: duplication or substitution (Barney, 2002). In my view the evolution of ICT has made software applications easier to imitate, by both duplication as well as substitution, but at the moment a major hindrance in the possibility to imitate is probably the cost of implementation.

According to Barney (2002), the relationship between resources, capabilities and competitive advantage is not fully understood because of three reasons. First, managers take resources, capabilities and competitive advantage for
grant. Second, managers may have different perceptions about what resources and capabilities provide competitive advantage. Third, it may be that it is not a specific resource or capability that provides the organisation with the competitive advantage. Instead it could be unspecified resources that give the competitive advantage. The difficulties with identifying the resources and/or capabilities that give an organisation its competitive advantage is something that also Porter (1991) emphasises, and he says that causality is something that needs to be more focussed. The discussion about causal ambiguity could certainly be compared to both the productivity paradox about software applications as well as the difficulties with evaluating software applications and the benefits of usage of these resources in organisations (Brynjolfsson, 1993; Oz, 2005; Ross, Beath, & Goodhue, 1995).

From this discussion about resource, capabilities, competencies, core competencies and competitive advantage the description of these concepts and how they relates to each other are shown in Figure 4-3. The main assumption drawn from this is that sourcing decisions involves at least two different types of resources: human resources and physical resources. Software applications are then defined as a physical resource. Regarding capability of software applications this is described as either technical capability or theoretical/practical capability. The latter is then described as ability that the human resources have on how to use and manage the software. The competence an organisation or specific users have regarding software applications is then described as a combination of the two types of capability. From this it is suggested that core competence is competence that create unique value and if this is “correctly” managed and used it can provide the organisation with competitive advantage.
It can be suggested that competence, core competence and competitive advantage has a close relationship to the strategy of the organisation. According to Porter (1991) there is also a close relation between conditions resulting from the history of the organisation and managerial choices, and why organisations might achieve favourable positions compared to its competitors. Porter states that the history is often a result from earlier choices made in the organisation, and success in organisations are dependent on that new positions are created or that new values are found independent on whatever starting position the organisation has. This can be related to Mintzberg’s and Quinn’s (1996) description of emergent strategies, and in my view this relates to how hosting is organised and therefore will the next section discuss strategy and sourcing decisions in relation to the resource-based view.

### 4.3 Strategy and Sourcing Decisions

The resource-based view belongs to theories about strategy. It can also be seen as part of organisational theory. Organisational theory is, according to Hedman...
and Kalling (2002), a foundation for many other theories such as strategy, strategic management, and theories about organisations, but also theories about management and theories about learning. To define the differences and describe the similarities between different theories regarding strategy and the resource-based view it is first necessary to state something about strategy. Strategy is described by Rumelt et al. (1994) as the direction of organisations. Barney (2002) defines it as the theory of how an organisation should compete successfully, whereas Rumelt et al. describe strategic management as a subject for searching after reasons for success and failure among organisations.

As stated above, according to Barney (2002), an organisation’s strategy is its theory of how to compete successfully. Barney even says that it is not possible to say afterwards if it was the right strategy or to judge if the strategy will be the right in the future. However, it is possible to judge if the organisation has been or is competitive at the moment. According to Barney an organisation’s strategy is a result of the organisation’s objectives which is an expression of the mission in the organisation. A mission for an organisation describes, according to Barney (2002), the objectives in the form of specific measurable targets about performance that the organisation tries to reach. Barney further describes strategy as the means of accomplishing the organisation’s mission and objectives. The strategy is then implemented in actions which can be described as tactics and politics in the form of actions the organisation needs to take to implement the strategy. This means that there needs to be a close relationship between mission, objectives, strategy and tactics, as shown in Figure 4-4, for an organisation to be able to compete successfully.

![Figure 4-4 The relationship between a firm's mission, its objectives, strategies, and tactics/politics (Barney, 2002, p. 13)](image)

The definition of competitive advantage provided by Barney (2002) forward the question of what performance is. Performance is defined by Barney (2002) as values an organisation creates compared to value owners expect to obtain.
Barney states that performance is not influenced by occurrence of resources so much. Instead he describes performance as more or less an effect of how resources are organised as described in the VRIO framework.

The discussion so far reveals that there is a relationship between resources, capabilities, core competencies as well as between strategy and sourcing decisions. It also suggests that strategy and sourcing decisions has a connection to each other. This suggestion builds on the statement made by Brandt et al., (1998) that an organisation’s strategies should guide decision-makers in their decisions so that they make them in the direction the organisation aim at. They describe strategy as a way or pattern showing the direction of how to reach the organisation’s objectives. The next section will look into some factors involved in sourcing decisions.

4.4 Theorising Factors involved in Sourcing Decisions

By adopting different theoretical perspectives the questions why and how to decide on using a specific sourcing option can be described and explained in various ways. In the literature I have found three theoretical perspectives commonly used for explaining adoption of a specific sourcing option (Cheon et al., 1995; Kern et al., 2002a; Klein, 2002). These are 1) Transaction cost theory 2) resource-dependency theory and 3) agency-cost theory. Transaction cost theory focuses the cost perspective, resource-dependency theory emphasises on the uncertainty about environmental dependency, and, finally, agency-cost theory discusses uncertainty about the division of power between client and supplier. These were theories used in the development of the model presented in Section 2.4 (Figure 2-2, p. 28) and are theories that will be used to further discuss factors involved in sourcing decisions.

4.4.1 Transaction Costs in Sourcing Decisions

Transaction cost theory (TCT) is interesting to discuss when discussing costs as a factor in sourcing decision-making processes about hosting decisions and outcomes of the process. This is because transaction cost theory has been used and found useful in outsourcing studies, and transaction cost theory has a focus on resource allocation. According to Willcocks, Lacity and Cullen (2006) transaction cost theory is the ideal theoretical foundation when analysing outsourcing because it specifically addresses make-or-buy decisions. This is also supported by Watjatrakul (2005) that states transaction cost theory is to prefer before the resource-based view when analysing sourcing decisions.
However, important to state is that both Willcocks et al., (2006) as well as Watjatrakul (2005) more or less talks about the final decision in a sourcing decision and they do not talk about describing and explaining a sourcing decision-making process that possible could result in outsourcing.

The basic unit of analysis in transaction cost theory is transactions. Williamson (1975) defines transactions as something that occurs when goods or services are transferred across technologically separable interfaces. The primary concern in transaction cost theory is what activities should be performed internally in the organisation and what activities should be performed by an external partner. Transaction cost theory also emphasises the relationship between benefits and risks when letting an external partner handle activities. Williamson (1975) argues that an organisation has two alternatives: either to produce services or goods internally or to purchase services or goods from a vendor. Whether one or the other option is selected there are two types of costs, production costs and coordination costs. Production costs are costs related to the production and include costs for employees, capital and material. Coordination costs are costs that arise from controlling and monitoring the task. Coordination costs arise from the need to coordinate activities across boundaries between organisations. These costs are associated with defining, negotiating, implementing and monitoring results from contracts. According to Jurison (1995) the underlying assumption in transaction cost theory is that humans are subject to bounded rationality, acting in their own self-interest and are subject to opportunistic behaviour. This assumption was elaborated by Williamson (1975) in what he labelled as markets and hierarchies. According to Williamson (1975), markets through economies of scale offer lower production costs than hierarchies. Hierarchies on the other hand have lower coordination costs compared to markets. This is because markets as agents behave in their own self-interest with an opportunistic behaviour. This demands an increase in the effort of monitoring the supplier’s activities, which implies that coordination costs increase.

Based on this discussion, the following can be concluded: Markets increase coordination costs and decrease production costs. Hierarchies on the other side increase production costs and decrease coordination costs. Consequently, the most economic decision to make or buy should be to choose the option with the lowest costs between on the one hand internal production costs plus internal
coordination costs and on the other hand external production costs plus external coordination costs.

According to Jurison (1995) as well as Cheon et al. (1995) outsourcing increases coordination costs and decreases production costs. Coordination costs depend on the following three factors. First, asset specificity, which is to what degree the transaction will produce an asset that is dedicated to a special purpose; second, uncertainty in the environment and how this impacts the contract and its fulfilment; and third, frequency of contracting. A sourcing decision can therefore be explained by the transaction cost theory as a selection between coordination costs and production costs.

Transaction cost theory has been used to explain outsourcing (Augustson, 1998; Lacity & Hirschheim, 1993a, 1993b; Scarbrough, 1998; Willcocks & Lacity, 1998), and it give some explanations of the decision to use a specific sourcing option, but it can be maintained that the explanation is too focused on costs. This means that it does not give a complete, rich and deep understanding of other reasons in sourcing decisions. Another factor is the availability of resources in the organisation and how the resources are used as well as how the resources are organised. These are factors that the resource-based view focuses more on. Transaction cost theory and the resource-based view key distinction between them is, according to Connor (1991), that the resource-based view centres on deployment and combination of specific resources while transaction cost theory focuses on reduction of opportunistic behaviour. Availability is related to resource dependency that also is a factor in sourcing decisions discussed in the next section from the resource dependency theory.

### 4.4.2 Resource Dependency in Sourcing Decisions

The resource dependency theory (RDT) emphasises on organisation’s dependency on both external and internal resources. The basic view in resource dependency theory is, according to Pfeffer and Salancik (2003), that organisations are embedded in an environment comprised of other organisations. The problem that resource dependency theory emphasises is that the environment changes and thereby resources become more or less scarce. According to Hatch (1997), resource dependency theory builds on strategic contingency theory and proposes some extensions of this. Strategic contingency theory outlines and predicts which social actors that have the greatest power in an organisation. The extension in resource dependency theory
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aims at explaining how the environment is linked to the organisation by political processes (Hatch, 1997). The idea is to show how environmental uncertainty can be handled and transformed into internal power in the organisation. Resource dependency theory focuses on the external environment and argues that all organisations depend on some elements in its environment. There are three critical factors when it comes to determining an organisation’s dependency on the external environment: Resource importance, control and use of resource allocation, and existing alternatives for the resource. According to Cheon et al. (1995), sourcing decisions can be described from resource dependency theory as strategic decisions composed of different degrees of dependence on another organisation for obtaining critical resources which are not available internally. The resource dependency theory focuses more on the result of a sourcing decision-making process than the resource-based view and it emphasises questions like why choose this specific supplier for a specific services. The main differences between resource dependency theory and the resource-based view is the focus on availability of resources. In that way the resource dependency theory emphasises on the environment and the power relation between organisations as well as between decision-makers. The next section expands the discussion about power relations that can arise when letting an external partner manage resources needed in the organisation by presenting agency cost theory.

4.4.3 Involvement of Power Relations in Sourcing Decisions

Agency cost theory was, according to Eisenhardt (1989a), developed by economists who described risk sharing between and among individuals and groups. These ideas have been further developed and labelled as the agency problem. An agency problem occurs when two cooperating parties have different goals and division of labour (Eisenhardt, 1989a). Agency theory is concerned with solving such problems. The basic unit of analysis in agency theory is the phenomenon labelled contract, which can be behaviour-based or outcome-based. A behaviour-based contract is when the organisation has internal control of its assets, and an outcome-based contract is when the organisation lets an external part control and influence assets. The contract reflects and controls the relationship between the agent (e.g. the provider) and the principal (e.g. the customer). According to Eisenhardt, there are two directions of agency theory, positivist and principal-agent. Positivist agency theory is focused on situations where the relationship between agent and
principal is a relationship between owners and managers in a certain organisation. The principal-agent direction of agency theory is according to Eisenhardt more general in its nature and can be applied in different kinds of relationships. The heart of principal-agent theory is the trade-off between costs and risks (Eisenhardt, 1989a). Costs in this case consist of costs of measuring behaviour and costs of measuring outcomes. The question of risk is how risk averse the principal and the agent are. Agency theory describes contract as a metaphor for the inherited conflict when individuals with different goals engage in cooperative work (Eisenhardt, 1989a). There are some similarities between agency theory and transaction cost theory. They share the assumptions of self-interest and bounded rationality. They also share the cost perspective in which costs in agency theory are similar to coordination costs in transaction cost theory.

According to Eisenhardt (1989a), there are also similarities between hierarchies and behaviour-based contracts as well as between markets and outcome-based contracts. She states that agency theory has two contributions: First, treatment of information, and second the risk implication of decision-making. Information in the agency theory view is seen as a commodity, and can therefore be treated as something that can be purchased and has a cost. The risk implication expresses that organisations are assumed to have uncertain futures. According to Eisenhardt (1989a) this uncertainty is viewed in terms of risk/reward trade-offs, and not in terms of planning inability. Agency theory predicts that risk-neutral decision-makers are more likely to choose the make option. The risk-averse decision-makers on the other hand more likely choose the buy option. The make option is connected with the behaviour-based contract and the buy option is connected with the outcome-based contract.

According to Cheon et al. (1995) agency cost theory explains the choice between a behaviour-based contract (internal control of resources) and an outcome-based contract (external control of resources). Agency costs consist of monitoring costs, costs for the principal’s residual loss and the bonding costs by the agent. According to Cheon et al. (1995), there are five factors that determine agency costs: Uncertainty, risk aversion, programmability, measurability and length of the relationship. The decision to outsource or not is then determined by the agency cost. Agency costs are costs that are incurred as a result of discrepancies between the agent’s objectives and the principal’s objectives. This is expressed as the sum of the principal’s monitoring costs, the
agent’s bonding costs and the principal’s residual loss expressed as the loss resulting from having an agent. Cheon et al. (1995) say that agency cost theory makes it possible to compare relative advantages of internal and external provision of software applications.

The agency cost theory focuses more on decision-makers behaviour and decision-makers risk awareness than transaction cost theory, resource dependency theory as well as the resource-based view do. I would argue that it therefore is important to have agency cost theory in mind when analysing sourcing decisions.

4.5 Chapter Summary

This chapter had the aim of defining some concepts involved in sourcing decisions and by doing so create a theoretical base for the rest of the thesis. The resource-based view is described as a theory that combines economic perspectives with management perspectives. In that way it is suggested to be a theory suitable for defining concepts related to sourcing decisions, since the resource-based view is a theory possible to use for describing and explaining as well as predicting behaviour.

The resource-based view stipulates that it is how the resources are managed that decides whether the organisation will have competitive advantage, and not where resources are located, which makes it interesting from a sourcing decisions point of view. From that discussion follows that resources, capabilities and competence are concepts that are important when describing and explaining a sourcing decision. This is in line with the findings from the study about adoption of application service provision (Johansson, 2004a) were it was found that the resource-based view of the firm explained outcomes of a sourcing decision to a great extent. This chapter defined resources, capabilities, competencies and core competencies in relation to software applications. Software applications are described as being physical resources that has a close connection to human resources. This close connection makes that capabilities related to software applications can be defined as either technical capability or theoretical/practical capability. The later is defined as the ability the human resources have on how to use and manage software applications. The two capabilities, technical and theoretical/practical capability, constitute the competence related to software applications and this is then described as being the foundation to core competence and competitive advantage. This describes the relation between sourcing decisions and resources, capabilities, and
competence as well as competitive advantage and this are shown in Figure 4-3 p. 71. The chapter also discussed strategy, costs, dependency and power and gave some initial descriptions of how these relate to sourcing decisions. This discussion will be deepened in Chapter 5 and Chapter 6.
Chapter 5 - Why Sourcing Decisions are Started

The aim of this chapter is to give a background for describing and explaining why sourcing decisions are started. To do so, it starts with discussing the role of sourcing decisions and software applications as well as the relation to business processes in organisations. The chapter justifies the conclusion that it is increasingly important how hosting of software applications is done in organisations today. From that discussion the chapter continues with discussing management and governance of software applications, since management and governance structure influence how organisations structure hosting of software applications. The chapter describes management and governance and reveals the differences between them as well as why it is important to distinguish between them. The description and explanation is then finalised with giving five initial propositions about why organisations start a sourcing decision. The chapter ends with a summary of conclusions from this chapter and a connection to the next chapter, Chapter 6, which will deepen the discussion about how sourcing decisions are made.

5.1 The Role of Sourcing Decisions in Organisations

Usage of software applications in business processes and how to improve an organisation’s business processes (Smith & Fingar, 2003) as well as software applications’ productivity (Brynjolfsson, 2003) have during the last years received increased attention. This attention can be said is related to hosting of software applications and thereby to sourcing decisions. Sourcing decisions also relates to concepts such as business process outsourcing (BPO) and the attention that it has received (Carr, 2004; Feeny, Lacity, & Willcocks, 2005). According to Brynjolfsson (2003) the question is not whether software applications pay off; instead it is a question of how to best use software applications in the organisation, which relates to sourcing decisions. Section 5.1, discusses this by describing usage of software applications in organisations and relate it to the role sourcing decisions has in organisations. It also deepens the discussion from Chapter 2 and the factors that were suggested in the model described in Figure 2-2 p. 28, by presenting four areas associated with the role of sourcing decisions in organisations. The areas are 1) usage of software applications in organisations (5.1.1), 2) organisation of software applications hosting (5.1.2), 3) business processes and sourcing decisions (5.1.3), and 4) software applications productivity and sourcing decisions (5.1.4).
5.1.1 Usage of Software Applications in Organisations

It can be proposed that with the increased use of software applications, software applications have become more and more crucial in organisations (Van Grembergen, De Haes, & Guldentops, 2004), and according to McCauley (2004), high investments in software applications have been made. Software applications are by Carr (2003; 2004), Falk (2003) as well as Junghagen (1998) said being comparable with electricity and oil to a great extent. Eriksen (2003) says that the comparison with electricity and oil is not relevant, since software applications must be related to the context it is used in, and evaluating software applications outside its context is pointless. Electricity and oil can be associated with software applications in one way and that is that both electricity and oil are necessary for organisations to do their business, but, as stated by Eriksen, to have more of these resources than necessary does not create a higher return. It can be suggested that software applications are more or less necessary for most organisations today. Software applications are also to a high extent part of organisations business processes. It can also be suggested that software applications have become so common in organisations that organisations take them for granted. This is in line with statements made by Barney (2002) as well as Carr’s (2003) assumption that software applications have become so basic that it does not create a business advantage by itself, meaning that having more software applications does not create business value in itself. Carr as well as Falk (2003) discuss software applications as enabling technologies. According to Falk, economic benefits come from the use of the technology to enhance and enable working processes. The conclusion is that in order to receive the benefits the technology has to be used in an appropriate way. This is in line with the statement made by Mata et al. (1995) as well as Eriksen (2003). The statement that Carr makes builds to a great extent on his definition of ICT. Carr defines ICT as denoting all technology, both hardware and software, used to store, process, and transport information in digital form (Carr, 2004, p. xii). However, when discussing the software part of ICT, the statements from Carr have received objections. One counterargument is that software applications do not matter but business processes do (Smith & Fingar, 2003). Since software applications to a high extent are integrated in organisations business processes (Lundeberg et al., 2006), it is hard to say in what way the process is influenced by software applications. An organisation can relatively easy say what software applications are used in a specific process, but it is probably much harder to say in what way the software impacts the process.
Chapter 5 - Why Sourcing Decisions are Started

Related to usage of software applications, there is an ongoing debate if the usage is effective or not. To Junghagen (1998), the usage of software applications in Sweden was moderate in the middle of 1990s. Studies show there is a strong relative growth expected in the use of software applications in Sweden (Statistics Norway, 2001). As described in the report from the Economist Intelligence Unit, the issue is not about adopting more software applications (McCauley, 2004). The issue is instead how to turn investments in software applications into greater economic gain. This can be compared to the debate raised by Carr (2003; 2004), who states it is hard, if not impossible, to see any effect of increased usage of software applications when it comes to making organisations more competitive or more profitable. This is contradictory to statements made by Brynjolfsson (2003), claiming that there is statistical significant positive correlation between intensity in the usage of software applications and overall productivity. Carr’s statement builds on the assumption that when a technology has been diffused and adopted by the major part of organisations, the technology does not provide any advantage. An important remark to make is that Carr says that an organisation cannot be without software applications if it wants to be competitive.

Carr’s statement, about software applications and competitive advantage, has opponents arguing this is not the case and if software applications deliver competitive advantage or not is a question of how software applications are used (Lundeberg et al., 2006; Mata et al., 1995). This can be compared with the report from McCauley (2004) which points out that despite that European organisations have invested as much as American organisations, the European productivity has not increased as much as the American. The conclusion McCauley (2004) makes is that this is because there are differences in the effectiveness related to usage. The reasons for the differences are described by McCauley as weaknesses in the management of software applications as well as in the awareness of existing technologies.

A somewhat different view is presented by Hussin, King and Cragg (2002) and Seyal, Rahim and Rahman (2000). According to Hussin et al. software applications can assist organisations in doing business in an effective and efficient way. They conclude that the use of software applications has become more sophisticated and that software applications can be used as a strategic weapon to maintain competitiveness. This is also expressed by Seyal et al. (2000), who maintains that software applications play a vital role as support in
Deciding on Sourcing Option for Hosting of Software Applications

the growth of business organisations. According to Willcocks and Lester (1996), the impact on productivity and business performance by software applications has been called into question. The debate around this has been called the “IT productivity paradox”. According to Willcocks and Lester (1996) there are three generic types of difficulties with evaluation and management of software application investments. The first is what they call a Catch 22 situation, which means that organisations cannot afford not to invest in software applications for competitive reasons, but they cannot economically justify the investment. Second, the ICT infrastructure has become an inextricable part of the organisation, which means that it is difficult to separate the impact of software applications from that of other assets. Third, there is a widespread lack of seeing software applications as a major asset.

The productivity paradox is interesting from a sourcing decision point of view in two different ways. First, software applications usage and performance from usage are hard to evaluate, and second, that software applications are part of the entire organisation. In organisations today, managers are asked to increase business value from investments in software applications (Weill & Ross, 2004) by improving usage of existing software applications as well as developing new business critical solutions supported by software applications. From an organisation’s point of view, when it comes to software applications usage the attention are basically: Cost reduction and/or improving business value (Pearlson & Saunders, 2004). Both these reasons indicate that how hosting of software applications are organised are of importance, and it can be assumed that software application usage depend on how the organisation organise its hosting. The next section discusses the role the existing organisation has regarding the start of a reorganisation of software applications hosting.

5.1.2 Organisation of Software Applications Hosting

The work that organisations do regarding software applications can be chunked into three overall areas: Development, maintenance and operation (Haverblad, 2004; Nordström, 2005). These three areas are closely related to each other and it is therefore necessary to clearly define these, to be able to say what impact and influence these have on sourcing decisions in organisations.

According to Agarwal and Sambamurthy (2002) much attention has been paid to how to organise the ICT function. The debate has been if the ICT function should be centralised or decentralised. This also relates to the question if it
Chapter 5 - Why Sourcing Decisions are Started

should be organised internally or externally. Agarwal and Sambamurthy (2002) argue there are three different directions for organisation of the ICT function. First, organise the ICT function so that it fosters co-evolution between the business and the ICT function. Second, organise the ICT function so that it emphasises relationships in networks. Third, organise the ICT function so that it explicitly manages value-creating processes.

According to Bearingpoint (2004), organisations not investing in an internal ICT department will lose their competitive advantage. The existence of the department will be questioned and stakeholders will suggest outsourcing. Outsourcing is described by Johansson-Grahn (2004) as a way for an organisation to change its structure. He also says changes in the structure probably have the purpose of improving the profit of the organisation. According to Johansson-Grahn, outsourcing can be seen as an organisational change suggested by the management as a way of improving efficiency and net profit. One common view against outsourcing is that the organisation loses competence and that it will experience difficulties in developing new software applications.

Another concern when it comes to how software applications influence structure of the organisation is, as described by for instance Andersen (1994) and Brandt et al. (1998), if the organisation should adjust to the adopted software applications or if the software applications adopted should be adjusted to the organisation. They state that a lot of efforts are spent on adjusting the software as well as adjusting the organisation. Markus and Robey (1988) have identified three relations between technology and organisational change which they label as: the technological imperative, the organisational imperative and the emergent perspective. The differences between these are what it is that start the actual change of the organisation and in the emergent perspective the change are described as a result from unpredictable interaction between ICT and its users. It can be said that maintenance is related to adjustment of both used software applications as well as to adjusting the organisation as such, and according to Brandt et al. (1998) a lot of efforts are also spent on maintenance of software applications. Leffler (1987) argues that in most organisations cost for maintenance amounts to 50 to 80 per cent of the ICT budget. Bearingpoint (2004) state that 57 per cent of organisations’ ICT budget goes to support and maintenance. Important to make clear is that the costs for maintenance includes costs for operation in these reports. Bearingpoints (2004) report shows that:
First, there is no clear distinction between operation and maintenance. Second, that there is a possibility to decrease costs on operation as well as maintenance and, for an organisation that wants to decrease its cost of software applications, savings on the operation and maintenance would be fruitful.

The suggestion that can be made at this point is that hosting of software applications is costly. On the other hand there seems to be a low usage of external service provision in organisations despite that external service provision seems to decrease costs (Dewire, 2000; Kakabadse & Kakabadse, 2002; Susarla et al., 2003). The basic thinking in external service provision is that it will provide customers with the same software and that the providers in that way will have benefits of economy of scale.

Another related problem with hosting of software applications is that organisations need to be knowledgeable of how to manage their software applications. In the study made by Bearingpoint (2004), it is stated that the most difficult task regarding software applications is to manage the technical part. This means that there is a great expectation on staff to be knowledgeable in order to give organisations an advantage gained from software applications. Though technology is fast changing, it means that the employees who use the technology need to be educated and trained continuously. It also means that, organisations need to have skilled people employed, and they need to have an environment and resources that attract employees to stay. The problems with attracting and keeping employees are very generic and could be said to be present in various settings. It can be proposed that decision-makers’ thoughts about how to support the organisation with knowledgeable people influence sourcing decisions.

5.1.3 Business Processes and Sourcing Decisions

It can be suggested that a desire to increase the effective and efficient use of software applications in a business process impacts a sourcing decision-making process as well as the outcome. It can also be said that business processes and thoughts of improving organisations’ business processes influence the start of a sourcing decision. To discuss this, business processes has to be defined. According to Amartunga, Sarshar and Baldry (2002), there is a great deal of variation among process definitions. They state that process in management literature often is defined as a set of related activities. This is in line with Ray et al.’s (2004) definition of business process as specific actions that organisations take for accomplishing some business purpose or objective. According to
Lindsay, Downs and Lunn (2003) there are two different focuses in definitions on business process. One defines business process from the goal of a set of related events; the other defines business process by emphasising how work is performed. Porter (1991) describes business process as a routine or activities that organisations do in order to have something done. An organisation consists of a set of different business processes which act in the direction of fulfilling the organisations overall goal. This is in line with the definition delivered by Hammer and Champy (1993) that define a business process as a collection of activities that transforms input to output of value for the customer. Davenport (1993) in his definition focus more on how work is performed and he describes a business process as a structured set of activities designed to produce a specified output for a particular market or customer. In my view a business process should have a clear focus on how work is performed which means that different sourcing options can be said are related by decision-makers to how they see software applications support business processes in the organisation.

According to Carr (2004) as well as Ross and Westerman (2004), the trend is toward using external provider for key software applications and services related to delivering these applications. This trend will further accelerate software applications to become a commodity. Carr (2004, p. 90) says the homogenising effect of software applications will increase when organisations more often use outside contractors for hosting of software applications. He also says organisations try to increase their flexibility and agility to have business success and in that way outrun and outmanoeuvre competitors. This states that flexibility is an important factor that impacts the sourcing decision when it comes to deciding on how to provide the hosting of an organisation’s software applications. Carr says that the fact that competitive advantage has become more difficult to sustain makes it more important for organisations to think on strategy and how they can gain and sustain competitive advantage.

The importance of distinguishing between performance from a single business process and organisations overall performance is something Ray et al. (2004) emphasise. According to Ray et al. the reason is that an organisation could be seen as consisting of different business processes, and the overall performance is a result from a range of different processes. This can be described as if one process performs well while another process is not, this will not be discovered without focusing on the processes as own entities. Amartunga et al. (2002) say it is important for organisations to stop thinking in functions and move towards
a process based philosophy in order to improve productivity. As Brynjolfsson (1992) describes it, correlation between software applications investments and lower productivity of the entire economy is not compelling since so many other factors are involved. It also relates to the definition of performance and is dependent on how performance is defined as well as measured. Performance is often described as an organisation’s net effect compared to its competitors, and is described by Gibe (2007) as closely related to an organisation’s capabilities and in that way related to what resources the organisation has available. This means that since capability is related to performance also productivity seems to be related to performance. This will be discussed in the next section.

5.1.4 Software Applications Productivity and Sourcing Decisions

Whether software applications have provided organisations with benefits has according to Hitt and Brynjolfsson (1996) been in managers’ focus for many years. Despite that, managers have had a hard time giving an answer on that question. Hitt and Brynjolfsson say that the issue of received benefits is not a single question. Instead they say it is composed of three different questions regarding software applications investments. First, does the investment increase productivity, meaning that more output is produced with the same amount of input? Second, does the investment improve business profitability, so that organisations gain competitive advantage by using the software? And third, does the investment create consumer value, in the way that benefits are experienced by the consumer? Hitt and Brynjolfsson’s (1996) conclusion from this is that depending on how benefits is understood and how benefits is measured, different conclusions are arrived at from the same data.

Brynjolfsson (1992) argues that the productivity paradox debate is somewhat wrong, and that it is too easy to conclude that software applications do not improve productivity. He, further, lists four explanations for the paradox: Measurements errors, lags or delay of effects, uneven distribution, and thoughts about mismanagements of software applications. In Brynjolfsson (2003), he says that there is a statistically significant positive correlation between intensity of software applications use and overall productivity. Brynjolfsson (2003) says the discussion about productivity and software applications are a failure because productivity is measured wrongly. He states that organisations using software applications intensively work differently from their competitors. It also supports the statement that software applications create benefits only if it lets users work more effectively (Brynjolfsson, 2003). This gives that the
variations of performance can be explained from at least two perspectives; first the variations are a result from measurements, or second, the variations are a result from that organisations uses its software applications for different purposes. Brynjolfsson (1992) says that it could be that decision-makers do not act in the interest of the organisation, but instead, act in self-interest receiving some benefits or act from a belief they are getting benefits from investments in software applications.

According to Lee et al. (2000), it was found among organisations in the 1990s that strategic advantages were not dependent on whether the organisations owned their software applications or not. Organisations realised that strategic advantage from software applications were dependent on how they used the software. This redirected the usage of outsourcing and made outsourcing become a more used option even for organisations that had well managed software applications. The question is what impact service provider and their, according to Brynjolfsson (2003), promises of solving the productivity issue has had on sourcing decisions. Brynjolfsson says that service providers to a high degree state they have a solution to the productivity issue but, they do not address the fundamental changes that are needed. The four different explanations of the paradox that Brynjolfsson (1992) delivers and that was described above: Mismeasurement, lag in time between the investment and the effect, redistribution of the positive effect meaning that a positive effect could be whipped out by a negative effect, or mismanagement, can be related to governance and/or management of software applications. So far this chapter has described organisations possibility to gain competitive advantage, increase software applications capability and increase the organisations effectiveness from software applications as dependent on how they organise hosting of software applications. It can also be suggested that this is related to a high extent on how governance and/or management of ICT and/or software applications are organised, which will be discussed in the next section.

5.2 The Role of Governance and Management in Sourcing Decisions

A sourcing decision is about deciding on the governance and management structure to a great extent. This section defines and describes the difference between governance and management and compares these concepts to each other. The aim of Section 5.2 is to discuss how assumptions about governance as well as management of hosting impact the start of sourcing decisions.
5.2.1 Defining Governance and Management of Software Applications

According to Weill and Ross (2004) effective ICT governance is important to have in organisations to be able to manage ICT in an effective way. Weill and Ross say that organisations with effective governance generated 20 per cent higher profit than firms with poor governance. Weill and Ross contend that top-performing organisations with effective governance had a return on ICT investment 40 per cent higher than their competitors. So, the question is what this effective governance is about. Weill and Ross define ICT governance as:

*Specifying the decision rights and accountability framework to encourage desirable behaviour in the use of ICT (Weill & Ross, 2004, p. 8).*

Weill and Ross’s definition indicates that ICT governance to a great extent is about who has the right to make ICT decisions and who it is that are responsible. This indicates that governance is related to decision-making in sourcing decisions. However, Weill and Ross argue that ICT governance is not about making specific ICT decisions; instead they argue that making specific ICT decisions is ICT management. Weill and Ross describe ICT governance as key asset governance connected to corporate governance as described in Figure 5-1. According to Weill and Ross corporate governance has a behavioural side:

*Corporate governance encompasses the relationships and ensuing patterns of behaviour between different agents (Weill & Ross, 2004, p. 9).*

In addition it also has a normative side:

*Corporate governance also refers to the set of rules that frame these relationships and private behaviours, thus shaping corporate strategy formation (Weill & Ross, 2004, p. 10).*
In Figure 5-1 the senior executive team should be seen as the “link” between corporate governance and key assets governance. The two sides of corporate governance, behavioural and normative, are described as desirable behaviour and strategy respectively. The description given by Weill and Ross indicate that ICT governance should have the same characteristics as other assets governance have. Weill and Ross describe ICT governance as dealing with five distinctive areas: Principles concerning ICT, architecture, infrastructure strategies, business applications needs, and investments as shown in Table 5-1.

Table 5-1 The five decision domains and their relation to IT strategy (Mårtensson, 2006, pp. 162-163)

<table>
<thead>
<tr>
<th>Decision Domain</th>
<th>Description</th>
<th>IT strategy formulation or realisation?</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT principles</td>
<td>High-level decisions on strategic role of IT in the company</td>
<td>Formulation (IS strategy)</td>
</tr>
<tr>
<td>IT architecture</td>
<td>Technical choices</td>
<td>Formulation (IT strategy)</td>
</tr>
<tr>
<td>IT infrastructure</td>
<td>Centrally coordinated shared IT service</td>
<td>Combination of formulation and realisation</td>
</tr>
<tr>
<td>Business application needs</td>
<td>Business requirements for applications</td>
<td>Realisation</td>
</tr>
<tr>
<td>Prioritization and investments decisions</td>
<td>Determines how much and where to invest in IT</td>
<td>Realisation</td>
</tr>
</tbody>
</table>
In Table 5-1, these five dimensions and their relation to IS/IT strategy is described by Mårtensson (2006). I would say the interesting point from a sourcing decision regarding hosting of software applications is that a sourcing decision deals with or should deal with all decision domains in the same decision-making process. Effective ICT governance I would say wants to control the “bottom” decision domains by controlling decision domains at the “top” level. To clarify if the implemented governance is effective, the following three questions, according to Weill and Ross, need to be answered:

- What decisions must be taken to ensure effective use and management of software applications?
- Who should make these decisions?
- How are the decisions made and how are they monitored?

Weill and Ross describe all these as decisions made by managers. The question is then how this is related to management? Earl (1989) describes ICT management as consisting of three distinct activities: Planning, organising, and controlling. The first, planning, receives most attention in organisations, and answer questions like, what applications do we need. The second activity, organising, aims at answering questions such as how an organisation should structure its resources. The third activity, controlling, aims at having control over resources by answer questions such as what the costs are for usage of software applications. According to Earl (1989), these three activities are dependent on each other, but are also dependent on and are affected by the overall management practice of the organisation.

From the discussion above it can be proposed that governance determines who should make the decisions while management is the process of making and implementing decisions. The question is how governance as well as management influences sourcing decisions.

5.2.2 How Governance and Management Influence Sourcing Decisions

McFarlan and McKenney (1983) describe five reasons why management of software applications are more complex than general management of organisations: 1) the short live of software applications, 2) the dramatic evolution of the software applications field, 3) the complexity in software applications development, 4) the increased specialisation of software
Chapter 5 - Why Sourcing Decisions are Started

applications demanding highly skilled personnel, and, 5) the shifting types of software applications. These five reasons according to McFarlan and McKenney demand a specialised management approach and specialised skills. Also Wysocki and Young (1990) as well as Lundeberg et al., (2006) describe that ICT management demands a specific management approach. However, Weill and Ross (2004) say successful executives have realised that software applications management does not differ so much from general management. This can be related to how ICT management is described by Wysocki and Young (1990) that describes it as skills executive officers’ need, irrespective of the manager is called CIO, executive ICT manager or just manager. Wysocki and Young say that the most important skill is to understand the organisation and its business. Managers also need to have communicational, political and organisational skills and experience in management of different types of organisations. According to Wysocki and Young (1990), managers do not need to be technically-oriented as long as they manage to get help from technical specialists. Wysocki and Young also describe it as necessary that the ICT manager is a member of the top management of the organisation. The description of skills that Wysocki and Young (1990) give is very much the same as Weill and Ross’s description of what is needed for having effective ICT governance.

It could be asked how implementation of software applications governance is related to management. Management can be described as either an activity or as a group of people (Easterby-Smith et al., 2002). Management as an activity: planning, organising, and controlling, (Earl, 1989) was described in Section 5.2.1. Perceiving management as a group means that it represents the people called managers and implies that management is something that is done at hierarchical levels. The fundamental structure of an organisation includes the hierarchical structure in departments and sub-departments (Simon, 1960). He says that organisations are systems of behaviour designed as a joint function of human characteristics and the nature of the work environment. In a specific organisation the question is what the optimal size of the departments are, which according to Simon is a question of centralisation or decentralisation. Another question is the relations between the departments and especially how to manage authority. Using Simon’s description indicates that implementing effective ICT governance could be seen as centralising decision-making authority in organisations.
According to Simon (1960) decision-making is the same as management and Simon (1977) says that organisations can be seen as decision-making systems. My view of the relation between decision-making and management as well as how these are related to governance is shown in Figure 5-2.

**Figure 5-2 Relation between governance, decision-making and management**

Figure 5-2 describes management as decision-making by managers. I would say that the interpretation of what managers are needs to be broad. In the figure I do not have the view of managers as a group of people on a certain level in a hierarchical organisation. Governance in the figure should be seen as a description of what managers are supposed to make decisions about as well as a description of what decisions managers can make. This regulation could be formal as well as informal, which can be related to how Mårtensson (2006) describes governance and the statement he makes that there is some kind of ICT governance in all organisations. Governance could also be seen as a baseline for the decision-making in that way that it regulate decision-makers decision-rights.

Seeing management as an activity is stressed by Easterby-Smith et al. (2002) as well as Earl (1989). According to Easterby-Smith et al., this view has evolved into a perspective that sees management as something that everyone must have skills in and that everyone makes today. Also Andersen (1986) describes management and decision-making as almost the same, and says that decision-making is an essential part of management. The major decision-making activities can according to Andersen (1986), and Easterby-Smith et al. (2002) who refer to Taylor and Fayol, be grouped into the following four activities:

- Planning for future activities.
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- Organising and deciding on how to link the organisation to its environment.
- Coordinating activities that aim at improving the effectiveness of the organisation.
- Controlling the use of resources in the organisation.

Controlling was the activity having least attention from ICT managers in Earl’s study from 1982/83 (Earl, 1989). According to Earl this indicates that the control was enough at that time. The low attention to control is perhaps not an effect of that the control system is, as described by Earl, in place and that software applications are under good control. Instead this could perhaps be explained by the productivity paradox (Brynjolfsson, 1992). The fact that it has been stated as extremely difficult to evaluate effects of software applications and costs of software applications could maybe explain why control has been avoided to some extent. It can also be described as even if the manager tries to emphasise on for instance having control over costs of software applications, the development and evolution of software has made it hard to have control.

Earl’s (1989) conclusion is that different management approaches are required when an organisation is at different levels of adoption of software applications. The different adoption levels he refers to are the ones suggested by McFarlan and McKenny (1983), namely the stages of initiation, contagion, control and maturity. These stages originally comes from Gibson and Nolan’s growth model (Gibson & Nolan, 1974). The question is if and how these stages influence the need for improving software applications governance in organisations, meaning that the question is if there are different needs about the governance in organisations when they are at different adoption levels regarding software applications. The conclusion, this far, is that governance to a great extent is about controlling usage of resources in the organisation and especially how an organisation uses its software applications in the best way.

5.3 Propositions about Why a Sourcing Decision Process Starts

This section presents five initial propositions about why organisations start a sourcing decision process. The propositions should be seen as expressions of reasons why organisations start to investigate how they should organise or reorganise hosting of their software applications. Five factors are described as reasons for starting a sourcing decision. These are: Control, core competence,
capability, cost, and strategy. Four of these factors were suggested in the model described in Figure 2-2, p. 28. In that model also risks and benefits were suggested as factors of importance in sourcing decisions. The reason for why these are not suggested as factors that influence the start of a sourcing decision is the suggestion that risks and benefits indirectly influence the actual start of a sourcing decision. Risks as well as benefits are probably to a high extent involved in the process and in the final decision in a sourcing decision, but, the assumption is that these influence sourcing decisions as, for instance, a decrease in control is a risk while an increase in control is a benefit and so on. The first factor that will be described as a proposition for why organisations start a sourcing decision-making process is control.

### 5.3.1 A Sourcing Decision Process Starts Because of the Need to Increase Control

It can be suggested that organisations start a sourcing decision process because they need to increase control of software applications, which could be described in two ways: First, control of costs related to usage of software applications, second, control of actual usage of software applications. The latter could be described as a need to control what, when and how software applications are used, so that software applications support the business processes in the organisation.

Control can be compared to governance and it could be asked what this governance is about. Governance is described as being about controlling usage of resources in the organisations and then especially how an organisation uses software applications in the best way. Governance and/or control could be compared to centralisation as well as decentralisation. It could be stated that in order to increase control from a specific decision-makers point of view centralisation of resources are made. From the perspective of the entire organisation, it can be stated that the lack of control to a great extent can be traced back to decentralisation. This can be explained by for instance looking at the impact PC’s have had on the development of different versions of software applications. The effect of that the end-user has got more control over its computer has made it possible to download and develop software applications for its own problems. This has probably been a good thing to some extent and a great deal of an organisations progress could probably be explained by this. However, as described by Simon (1997), centralisation or decentralisation is not a question for organisations whether they should centralise or decentralise.
Instead it is a question of how far they should go with the decentralisation or centralisation. This means that for organisations that need to improve control, centralisation of hosting is one way to do that, and I would say that outsourcing is the most centralised hosting option.

The statement above means that an organisation that wants to have control over costs for its software applications outsource to a greater extent than other organisations do. It also means that an organisation needs to have control of its software applications before it outsource. In short, an organisation needs to increase cost control over software applications and control over usage of software applications because the organisation has decentralised too much. In order to increase control and thereby governance, outsourcing is a feasible sourcing option. However, to be able to have a successful outsourcing the organisation needs to have a certain degree of control and one way to have that are to do an internal restructuring. Control in this context refers to both cost control, control over the usage, control over what software applications that are used as well as control over versions of software applications. From this it can be proposed that the evolution of software applications, which according to Carr (2003, 2004) has made software applications become a commodity, has made it possible to have even better control over distance usage of software applications. This evolution has also made distance provision possible, without making the increased level of control to become a hindrance for the organisation’s development.

McFarlan and McKenney (1983) contend that all technologies will sometime receive a point of maturity, but the question is whether this has come to software applications or not. According to Carr (2003) and his description of software applications as commodities, it has. I would say that it is organisations’ usage of software applications that are more or less mature, and this means that organisations at different levels in Gibson and Nolan’s growth model (Gibson & Nolan, 1974) need to handle governance as well as management of software application in different ways. Van Grembergen et al. (2004) say that internal ICT departments have changed from being a service provider to becoming a strategic partner. The reason they give for this is that software applications have evolved so much and has become an opportunity to differentiate organisations from each other and that organisations thereby receive competitive advantage. For organisations to stay competitive, they need to implement effective ICT governance (Weill & Ross, 2004). Weill and Ross
(2004) say that difficulties with explaining ICT governance are the most serious barrier for implementing effective ICT governance. The importance of focusing on ICT governance is described by Weill and Ross as a function of: First, the tight link between ICT and business processes, and second, the attempt from organisations’ stakeholders of getting more value from ICT investments. According to Weill and Ross organisations get more value from ICT by implementing effective ICT governance. This is done by clarifying ICTs role to fulfil the strategy, and by increasing measurement and management regarding spending of ICT.

This means that the control or governance aspect of software applications has become more and more important for organisations. This suggests that governance is a factor that influences why an organisation starts a sourcing decision process, and it results in the following proposition:

**Proposition 1:** A sourcing decision process may start because organisations need to improve control/governance regarding software applications.

### 5.3.2 A Sourcing Decision Process Starts Because of a Need to Focus on Core Competence

It can be suggested that organisations start a sourcing decision process because they need to focus on their core competence. As described in Section 4.2, there are some difficulties in defining core competence. Despite that, it can be suggested that the start of sourcing decisions are influenced by a desire to focus on core competence. Or in other words, a sourcing decision starts since decision-makers see this as a way of focusing on the organisation’s core competence. Focusing on core competence is one of the reported reasons for outsourcing. It could therefore be relevant to ask if the start of a sourcing decision process reflects the need to focus on core competence.

It can be proposed that if software applications are seen as supporting the organisation’s core competence, it should not be outsourced and if software applications are not seen as supporting the organisation’s core competence it should be outsourced. This can be compared with a commonly quoted reason for ICT outsourcing claiming that ICT outsourcing provides increased flexibility to cope with changes in technology and in the business environment. Paradoxically the traditional ICT outsourcing agreement is based on long-term contracts that rather tend to inhibit than facilitate change (Shepherd, 1999). Kakabadse and Kakabadse (2002) say that one key driver for using external service provision is a desire to focus on core competences. Dewire (2001)
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suggests that an organisation should adopt external service provision if ICT is not a core competence. Aalders (2001, p. 219) proposes twelve reasons why an organisation should outsource, summarised as follows. ICT outsourcing makes it possible to focus on core competence. It also makes it possible to increase control of the cost and quality of ICT. Besides that it gives the buying organisation access to skilled personnel and ICT competence. This can be compared with another commonly quoted reason for ICT outsourcing, which is that ICT outsourcing increases flexibility in handling personnel and offers increased competence in ICT in the organisation (Feeny et al., 2005).

Findings from my licentiate thesis (Johansson, 2004a) suggests the conclusion that core competence often is used as a factor decision-makers suggest for their action without having a clear view about what their core competence consists of. From that thesis (Johansson, 2004a) it can be said that the decision on adopting an external service provider for provision of software applications was described as an attempt to focus on core competence. However, decision-makers (the CIO’s in the Storage Company, the Saw Manufacturer, and the Furniture Company, Table 3-2 p. 48) use both core competence as well as core business when talking about sourcing decisions. This can be compared to the relation between resources, competence and core competence that Javidan (1998) suggests, as described in Section 4.2. It can also be compared to software applications as a commodity service and the discussion by Udo (2000) and Lacity and Hirschheim (1993b) that if software applications turn out to be of strategic importance, outsourcing can lead to serious problems in the future.

By using different providers for different services, problems with integration and interoperability between the different services can be a fact. Therefore, the main conclusion from this is that it is extremely important to be aware of how hosting relates to the organisations core competence when outsourcing software applications. However, it should be noted that it is, as described by Prahalad and Hamel (1990), difficult to define core competence and at the same time try to see what it will be in the future.

According to Prahalad and Hamel (1990), it is easy for an organisation to misunderstand its core competence. If asking decision-makers if hosting of software applications is a core competence for the organisation, most decision-makers would say no, but they would at the same time prefer to keep hosting of software applications internal. This can be explained by looking at the argument from for instance Mata et al. (1995), who say that it is not the
ownership that makes if a resource contributes to the organisations core competence. Instead, it is how resources are managed that contributes to core competence. The confusion of what core competence are or not are and decision-makers different opinion about how hosting contributes to core competence suggests core competence as a reason for the start of a sourcing decision. From this discussion the following proposition can be formulated:

**Proposition 2:** A sourcing decision process may start because organisations need to focus on core competence.

### 5.3.3 A Sourcing Decisions Process Starts Because of a Need to Increase Capability

It can be suggested that organisations start a sourcing decision process because they need to increase capability and especially capability received by usage of software application. This depends on whether decision-makers see it as possible to increase the organisation’s capability by software applications usage or not. It is also dependent on the decision-makers’ thoughts about how different sourcing options impact and influence the possibility to increase capability.

It can be argued that one reason for why organisations start a sourcing decision is that the decision-makers see the internal ICT department as unresponsive (McLellan et al., 1998). They say this is because the organisation’s internal ICT department does not respond to organisational needs. The organisation wants a more flexible ICT organisation and sees outsourcing as a way of reaching this. External service provision is also reported as a way for SMEs to take advantage of the rapidly changing opportunities in ICT (Currie & Seltsikas, 2000; Turban et al., 2001), and it can assist SMEs with ICT skills, especially in the development and software maintenance areas (Kern, Lacity, Willcocks, Zuiderwijk, & Teunissen, 2001) as well as in hosting. These three reasons were all supported by the Furniture Company’s CIO, who described these as reasons for why they had made the choice of using an external service provider for its hosting. It can also be that organisations want flexibility in the organisation and that the sourcing decision process is started with the aim of investigating how different sourcing options solve this. A change in the structure of the organisation and especially the usage of external service provision is seen as a way of reaching this. Dewire (2001) argues that an organisation should adopt external service provision if there is a need for flexibility regarding: Scaling,
switching, or deploying of software applications or if the organisation finds it difficult to attract and retain ICT staff.

Cheon et al. (1995) say that outsourcing can be described from the resource-based view as a strategic decision aiming at filling the gap between desired capabilities and actual capabilities. There are at the moment discussions about whether software applications support organisations with the capability they need as well as how the capability is affected by how organisations host software applications. The discussion concerns whether software applications give organisations competitive advantage or not as well as how software applications should be managed to provide competitive advantage. It can be assumed that organisations and especially executives in organisations need to have answers on how as well as what impact software applications have on the organisation’s net benefit. It can be suggested that these questions most probably act as a starting point for a sourcing decision process. From this discussion the following proposition can be formulated:

**Proposition 3:** A sourcing decision process may start because organisations need to increase capability gained from software applications usage.

**5.3.4 A Sourcing Decision Process Starts Because of a Need to Decrease Costs**

It can be suggested that organisations start a sourcing decision process because of a need to decrease costs. A related factor to capability is cost, and it could be said that if there were no cost limitations, organisations could have the capability they wanted. This is not the case and therefore it can be implied that a reason for starting a sourcing decision could be that the organisation needs to decrease costs. One of the most reported reasons for why organisations make a restructuring is that they want to decrease costs. It could be asked whether this also could be said about the reason for starting a sourcing decision process. That hosting is a work task that spend a lot of resources and thereby costs a lot of money in organisations could be stated (Bearingpoint, 2004; Brandt et al., 1998; Leffler, 1987). If this is true that would probably to a high extent act as the starting point of a sourcing decision process.

Jurison (1995) summarises outsourcing or not outsourcing motives by stating that:
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Accumulated evidence from the literature appears to indicate that economic considerations, in one form or another, have the primary role in ICT outsourcing decisions (Jurison, 1995, p. 240).

Kern et al. (2001) point out three reasons why an organisation should use an external partner for service provision. First, even though packaged software applications are cheaper than in-house developed solutions, it is still the case that many organisations cannot afford software applications package. Second, an organisation will be unable to attract and afford the necessary ICT staff. Last, software applications package require an established ICT infrastructure and connectivity to ensure optimal performance. For an organisation it is difficult to retrieve the necessary human and financial resources to support and continually develop such infrastructure. According to McLellan et al. (1998) financial motives are expressed strongly by providers as reasons for using an external service provider for software applications. They state that cost-cutting is one very highly expected outcome of ICT outsourcing. To Kakabadse and Kakabadse (2002) one key driver for using external service provision is a wish to reduce costs of software applications. Dewire (2001) suggests an organisation should adopt external service provision if it cannot afford a huge capital outlay and if it does not have the necessary capital resources.

This means that cost as a starting point is probably the starting point that has the clearest connection to the final decision and also the closest connection to a clear measurement of why the outcome of a sourcing decision becomes what it becomes. Based on this discussion the following proposition can be formulated:

**Proposition 4:** A sourcing decision process may start because organisations need to decrease the costs involved in hosting of software applications.

**5.3.5 A Sourcing Decisions Process Starts Because of the Organisation’s Strategy**

It can be suggested that strategy can be seen as a starting point of a sourcing decision. If so, then a sourcing decision process probably has a clear direction already from the start as well as a clear direction on the outcome from the decision-making process. It could be clearly stated in the organisation’s strategy that hosting of software applications is not something the organisation should do. If not clearly stated in the strategy, it could be clearly said by executives that the organisation should only deal with work tasks related to its core business or core competence. This could result in that hosting is seen as outside the core business and thereby nothing the organisation should do. These
clearly described strategies are probably rare. But, it can be said that in all organisations there is some kind of strategy (Mintzberg & Quinn, 1996), expressed in a written document or just in the head of a decision-maker. Independent of whether the strategy exists as a formal document or not, strategy probably can be said play an important role when it comes to why organisations start a sourcing decision.

Weill and Broadbent (1998) say that whether an organisation should outsource or not is mainly a question of the organisation’s strategy. Organisations demanding increased flexibility in their contacts with the market and being in an area of higher growth, internal delivery of software applications is to be preferred. According to McLellan et al. (1998), there is a belief that ICT outsourcing is only appropriate when ICT is not a core function. They say that this is not the case, since outsourcing of ICT offers an opportunity to increase competitive capabilities and improve business performance. It can be said that the strategic initiative to outsource ICT is taken with the aim of improving long-term business performance. According to Udo (2000) organisations classify services from software applications as either commodity services or strategic services dependent on what services that are delivered. Udo says that commodity services can be outsourced without doubts, but strategic services should never be outsourced. Lacity and Hirschheim (1993a) suggest this categorisation can cause an organisation serious problem in the future. The reason for this is that commodity services can be strategically very important for the organisation in the future.

It can be suggested that the influence strategy has depends on the size and structure of the organisation but also what role hosting plays in the organisation. This can be described as if the organisation before a reorganisation of its hosting has one or several departments that deal with hosting of software applications or if hosting of used software applications are made by individual employees. It also depends on the prevalence of software applications and the amount of usage of software applications in the organisation’s business processes, and in that way it can be related to maturity level of software applications usage (McFarlan & McKenney, 1983; Ross, Weill, & Robertson, 2006). It also depends on how the strategy of how hosting is done has evolved (Mårtensson, 2006). It could be that the hosting strategy is a result of that a user of a specific software application also uses its own PC to host that application. The hosting strategy could in that case be described as an
emergent strategy (Mintzberg & Quinn, 1996). In that case it could be proposed that the hosting structure demands a reorganisation and that decision-makers see the structure that has grown up as a reason to reformulate the organisation’s hosting strategy. From this the start of a sourcing decision-making process could be seen as a strategy departure aiming at a new strategy, and the following proposition can be formulated:

**Proposition 5:** A sourcing decision process may start because a “new” strategy for the organisation demands that.

### 5.4 Chapter Summary

This chapter discusses factors for why sourcing decisions are started. The question in the chapter is what and how different factors influence the start of sourcing decisions. The increasing role software applications have today in organisations, and the role software applications have in delivering competitive advantage, increase productivity, involvement in organisations business processes, and how organisations hosting structure are discussed in relation to the start of a sourcing decision-making process.

The chapter also discusses ICT governance and ICT management. The conclusion that is made about the differences between them is that governance should be seen as a strategy for how to execute management. It is suggested that management and decision-making often is described as almost the same. A common description of management describes it as consisting of three activities: Planning, structuring or organising, and controlling. The control activity is the one that is most closely related to governance. It is stated that implementing effective governance is important for organisations to be able to use software applications in an effective way. This can be proposed from the argument that control of software applications is important to have if organisations should be able to use it effectively and thereby become competitive. The chapter and the discussion about why organisations start a sourcing decision are summarised in five initial propositions. These propositions suggest that increased control, focus on core competence, increased capability, decreased cost, and a “new” strategy can be described as factors influencing the start of a sourcing decision-making process aiming at deciding on hosting of software applications. How these factors influence sourcing decisions will be more discussed in Chapter 8 in relation to empirical data presented in Chapter 7. Before that the next chapter, Chapter 6, will discuss how sourcing decisions are made.
Chapter 6 - How Sourcing Decisions are Made

The aim of this chapter is to give a background for describing and explaining how sourcing decisions are made. The chapter describes different perspectives on organisational decision-making and relates these to sourcing decisions. The chapter starts with an introduction to decision-making processes. It then continues with describing different perspectives of decision-making in organisations. These perspectives are further described by decision-making models, rationality versus irrationality of decision-making, power and politics in decision-making, and finally authority in decision-making emphasising on formal authority when making sourcing decisions. The discussion in this chapter acts as input to the analysis in Chapter 8 of how sourcing decisions in the two cases, presented in Chapter 7, are made. To do so the chapter ends with suggesting four initial propositions about how sourcing decisions are made.

6.1 Introducing Decision-Making Processes

Given that an organisation should change/elaborate hosting of software applications, the decision to choose a specific sourcing option involves two different decisions. The first decision is to decide whether to produce the service in-house or to buy the service from an external partner. The second decision, following after a decision to buy the services, is to decide who is going to be the partner delivering the services. These two decisions are made at different times and sometimes in different contexts and probably in some cases by different decision-makers. The first decision can be seen as a more strategic decision (Hickson et al., 1986) and as such arguably made at a higher level in the organisation. The second decision can in some cases be seen more as a tactical and/or an operational decision and can consequently sometimes be made at a hierarchical lower level in the organisation. These two decisions are not an easy task for those involved in the decision-making (Baldwin et al., 2001). There are at least two reported reasons for this (Jurison, 1995). First, the decision involves considerable uncertainty about, for instance, the outcome of the decision. Second, the decision also involves business risks, for instance, when a sourcing decision is made the decision is hard to reverse. This can also be related to the statement made by Barthélemy (2003a) that states that once an outsourcing decision has been made the success depends on the management of
the relationship. Baldwin et al. state that there is always a need to gain insights into how and why decisions are made. The reason is to improve the knowledge of the decision-making and learn from reported experiences. To be able to do so, it is necessary to seek explanations of the underlying motives behind the decision. The motives exist in a context in which decision-makers act. This context is socially constructed and comprises norms, values and beliefs (Hedman & Kalling, 2002), which spur decision-makers to act and make decisions which are not always seen as rational. These norms, values and beliefs have to be explained and understood if the outcome of the decision-making is to be understood. One way to obtain knowledge of the motives for the decision is to examine the nature of the decision-making process. According to Bjørn-Andersen (1974) research about decision-making can have two different directions, outcomes of a process or the process as such. This means that the focus can be either on the choice or the process. It can also be related to Elbanna’s (2006) description of content research versus process research. Bjørn-Andersen says that classical research on decision-making had a focus on the outcome and also to be highly normative in the meaning that it aims at coming up with solutions for “better” decisions. This is also supported by Nutt (1998), who says that decision-making research has said little about how the process is influenced by reasons for the start of the process. Nutt (1993) describes a decision process as consisting of a stream of action-taking steps beginning with a request from stakeholders ending in adoption of a decision. Mintzberg, Raisinghani and Theoret (1976) define a decision process as a set of actions and dynamic factors that begin with an issue and end with a commitment of action. Langley, Mintzberg, Pitcher, Posada and Saint-Macary (1995) describe the request as the “issue” that should be solved and argue that a focus on the issue give new insights into a decision-making process.

The above indicates that a decision-making process is complex, and to understand that complexity there are, according to Salaman (2002), four assumptions about decision-making that could be of help for understanding the complexity. These are: Distortion, irrationality, rationality and taken-for-granted. Firstly, sources of distortion which means according to Salaman that there is a need to take into account that sometimes the wrong description of how a decision was made is presented when asking somebody about the process of that decision. Distortion implies that the decision is probably described as more rational than it actually was. The distortion of rationality leads us to the second and third assumptions, which are irrationality and
rationality as each other’s opposites. According to Salaman (2002) we expect decision-making to be rational and interpret decision-making as a process that follows various steps in a logical, systematic and reflecting way. This discussion leads us to the fourth assumption, which is the taken-for-granted assumption. The taken-for-granted statement can be compared with what Alvesson and Deetz (2000, p. 167) call de-familiarisation, which means that you turn the well-known into something exotic and arbitrary, instead of seeing it as natural. A taken-for-granted assumption can, for instance, be the assumption that decision-making is always a rational process or the assumption that a decision-maker always makes decisions that aim for the organisation’s best (March, 1994).

Since this research is about decision-making in organisations and focus on decision-making processes, the work of Cyert, March, and Simon is a reasonable starting point (Cyert & March, 1963; March & Simon, 1958; Simon, 1960, 1997) as well as the work of Brunsson (1985) and Pettigrew (1973). The latter two differ from the view of rationality as well as the view of bounded rationality described by Cyert, March, and Simon. The view of decision-making that Brunsson and Pettigrew give is that organisational decision-making can be described as irrational from a decision-making process perspective but as rational from an organisational action perspective. Pettigrew (1973) emphasises the political power decision-makers have and how they use their power in decision-making processes. This is also put forward by Simon (1997), who says that these two sources, Brunsson and Pettigrew, complement each other in a good way.

The next sections discuss the nature of decision-making using two questions. First, how are decisions made? This question will be discussed by describing decision-making models and particularly Simon’s (1960) decision-making model, but also by discussing the distinction between rational, bounded rationality and irrational decision-making using Brunsson’s (1985) description of irrationality in decision-making. Second, who makes decisions? This question will be discussed by describing the role politics and power has on decision-making (Pettigrew, 1973) and the concepts authority in decision-making as well as administrative behaviour in organisational decision-making (Simon, 1997).
6.1.1 Decision-Making Models and Sourcing Decisions

Simon’s decision-making model is a well-known model presented in *The New Science of Management* in 1960. The model consists of three steps of decision-making: Intelligence, design and choice. Dibbern et al. (2004) describe it as a general decision-making model and as the most famous model for understanding and explaining decision-making processes in organisations. To Langley et al. (1995), Simon’s model has been established as the dominant research model of decision-making processes.

To understand the different steps of the model, it is necessary to have an understanding of what Simon means with decision-making. According to Simon (1997) the intention of decision-making is to solve a problem, and he claims that decisions and decisions-making are made in organisations continuously. If the specific problem that needs to be solved is well-known by the decision-maker, meaning that it is perceived as a common problem, Simon describes it as a programmed decision. The opposite is when the decision-maker is supposed to decide on a not well-known problem. Simon labels this as a non-programmed decision. According to Simon it is possible to solve a non-programmed decision by solving that problem as a sequence of programmed decisions. This can be made according to Simon by breaking down the overall decision task into smaller steps using his decision-making model. Decision-makers thereby solve the entire problem by solving it stepwise by solving smaller problems, meaning that the decision-making model can describe how decision-makers solve one part of the problem after each other. According to Simon (1977) a great deal of non-programmed decisions are possible to structure into programmed decisions. The reason he states for this is that the way human makes non-programmed decisions is to break them apart into smaller sub-decisions, solving one step, continue with the next step and so on. There are according to Simon two reasons for not restructuring all non-programmed decisions to programmed decisions. These are, first, it is not economical to do so, and second, the most important remark, decisions that involves high level of qualitative judgement is not possible to structure in that way. Both these reasons could be related to Gladwell’s (2006) description of making decisions without “thinking” and the way he describes decision-making as thin-slicing. Simon’s description should not be seen as an attempt of changing the nature of the decision; instead the discussion is about how to routinize non-programmed decision-making processes. It is important to state that programmed versus non-programmed decisions are not distinct types.
Instead, they form a continuum with highly programmed decisions at one end and highly non-programmed decisions at the other end. Simon gives the following explanation of these two types of decisions:

*Programmed decisions are routine, repetitive decisions that are possible to develop specific processes for solving. Non-programmed decisions are decisions that are one-shot, ill-structured novel, policy decisions that are managed by general problem-solving processes* (Simon, 1960, p. 8).

The description should be interpreted as even if it is a non-programmed decision, the decision-maker is not totally without help in solving the problem. What it suggests is that there is no description for how to solve this specific problem and the reason is that it demands a custom-tailored treatment. Simon also says that programmed and non-programmed differ in how frequent, familiar and routine the decisions are, but also if there is a procedure worked out for handling the decision. Programmed decisions are often made in a more straightforward fashion that can be executed in a rational, logical and linear step-by-step approach. Programmed decision-making can according to Simon (1960) be described as following one of three directions. First, it can be solved by using habits (decision-making is usually done in this way), second, by using clearly spelled out routines (decision-making should be done in this way), or, third by using organisational specifications (decision-making is expected to be done in this way). The non-programmed decisions are instead novel and unusual and therefore challenge the decision-maker. In addition, the non-programmed decision is often more strategic for the organisation.

By giving this introduction to Simon’s model, the steps in Simon’s model are easier to follow. The steps and the intention of each step are described below:

- **Intelligence.** In this step, the environment is searched by the decision-makers. The aim of this search is to be up to date with what goes on in the environment surrounding the decision-maker. Relating this to Simon’s statement that decision-making is problem-solving, a search for solutions of the experienced problem is conducted. The search is made in order to relate this problem to other problems, but also to the same kind of problem in other contexts. After finding the conditions for action, and answering the question what the problem is, the next step is to design the possible action or actions for solving the problem.
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- Design. The second step aims at inventing, developing and analysing possible courses of action. Relating this to problem-solving means that after identifying the problem in the first step, the second step identifies possible solutions for the problem. This step then answers the question what the alternatives are for solving the problem. After the design phase, the actual choice of action is taken.

- Choice. In this step the selection of a particular action is made. The aim is to select the alternative that is seen as the best solution for the problem. According to Simon false imagination of decision-making could probably be seen as related to this step, since the ones who are not engaged in the decision-making process become acquainted with the decision-making process for the first time. In a sourcing decision this could be described in the following way. The final decision is that the organisation should outsource and only those who have been involved in the decision-making know that there has been an investigation of other options. Resulting in that those not involved in the decision-making may see the outcome as the wrong one, since they do not have the complete overview of the decision-making.

Simon’s decision-making model has been and is used to a great extent to describe and explain decisions, some recent examples are Alenljung and Persson (2005), Elwood and Sharon (2005), Tiwana, Wang, Keil, and Ahluwalia (2007), as well as Sinclair and Ashkanasy (2005). The model has been expanded with a fourth step, labelled implementation. This is a step that Simon does not present in the original model from 1960. However, it is described by Dibbern et al. (2004) as being a part of Simon’s decision-making model.

- Implementation. Simon (1960) discusses this step to some extent when he describes implementation of the chosen policy, where policy should be interpreted as the chosen solution for solving the problem. The aim of the implementation step is to implement the chosen solution in the organisation. The implementation can then generate new problems. Dibbern et al. say that the three first steps are related to the decision process when deciding for instance if the organisation should outsource and the last step is related to implementation of for instance an outsourcing decision.
Simon (1997) argues that common images of decision-making misrepresent decision-making and the reason is too much focus on the decision’s final moment, the outcome. Brunsson (1998) describes it in the way that when first study a decision process it looks like the process is about choosing between alternatives and that it ends with selecting one alternative. A closer look shows that a decision process is more than just selecting; the process also aims at triggering action, clarifying responsibility and creating legitimacy. This means that one has to examine the whole process and explore and analyse the preceding of the final moment. As Simon (1960) describes it, decision-making is far more complex than the sequence description of the different stages suggests. When solving one problem that problem generates sub-problems that have their own cycle of the decision-making steps and so on. March (1994) describes this as decomposition. Langley et al. (1995) support this by stating that decision processes are characterised more by their interrelations and linkages than by their isolation. Simon (1977) also describes that the final step, the choice, is in many decision-making processes already made during the time for the intelligence step and the design step, which indicates that decision-making is not a linear process. According to March (1994) this way of working backward is one form of decomposition in which decision-makers decide what result they want from the decision-making process and then they construct the process according to that. It can be suggested that this to some extent depends on if the decision is a programmed or non-programmed decision.

6.1.1.1 Sourcing Decisions as Strategic Decision-Making

As described above, decisions can be processed in different ways and as such can be categorised into two overall kinds of decisions, programmed and non-programmed. These two differ in how frequent, familiar and routine the decisions are, but also if there is a procedure worked out for handling the decision. Gorry and Scott Morton (1989) as well as Mintzberg, Raisinghani and Theoret (1976) use the term structured and unstructured for programmed and non-programmed decisions. Jurison (1995) states that sourcing decisions are programmed decisions. This statement can be questioned, and to bring some clarification on this, there is a need to look deeper into how the process of choosing a specific sourcing solution is made. In my view sourcing decisions are more related to what Gorry and Scott Morton describes as strategic planning. Strategic planning is defined as:
The process of deciding on objectives of the organisation, on changes in these objectives, on the resources used to attain these objectives, and on the policies that are to govern the acquisition, use, and disposition of these resources (Gorry & Scott Morton, 1989, p. 50).

Strategic planning can be described as both non-programmed as well as unstructured. According to Mankins and Steele (2006) there is a need to separate the actual decision-making from the traditional planning process, which they describe as strategic planning, and they say when doing so needed strategic decisions to make are identified. Strategic decisions are according to Hickson et al (1986) decisions that will play a bigger rather than a smaller part in shaping what will happen for a long while afterwards. In my view, this definition makes strategic planning a form of strategic decision. I would say that a sourcing decision is about planning for the future and to a great extent deciding on how to govern acquisition, use and disposition of software applications. To further investigate sourcing decisions from the characteristics of strategic decisions, the following questions proposed by Miller, Hickson, and Wilson (2002) could be useful:

- What is the decision about? The answer to this question describes the content of the decision.
- How is the decision-making process reflected in the organisation? The answer describes the process.
- Is the character of the decision strategic or operational? The answer states the importance of the decision.

The fundamental question in a sourcing decision about hosting is if hosting should be managed internal or external (Jurison, 1995). Sourcing decisions can be described broadly as a process that consists of two decisions. The first decision is to decide if the organisation should buy the product/service or make the product/service by itself. The second decision is to decide who will deliver the product. This second decision follows from the first and is only made if the organisation decides to buy the services from an external provider. The aim of the second decision is to decide with whom the organisation will cooperate. This answers Miller et al.’s. (2002) first question, namely the question of what the decision is about.

The second and third questions proposed by Miller et al. are definitely harder to answer. The second question, how the decision-making process is reflected in
the organisation, has to be broken down into more specific questions such as who handles the decision-making, but also what effect the decision has on the organisation. The latter question is linked to the third question, namely the question whether the decision of choosing option for hosting of software applications is a strategic question or not. Using the questions proposed by Miller et al., I would say that sourcing decisions theoretically are made by decision-makers who have high formal authority and that sourcing decisions are decisions that have a long-time impact on the organisation and therefore can be described as strategic decisions.

Strategic decisions can be described as non-programmed decisions which means that there is not much indication on how these are done and less of specific, describable techniques. According to Simon (1977), a typical answer from a decision-maker on the question how non-programmed decisions are made is through judgement. This judgement, in turn, is said to build on experience, insight and/or intuition (Gladwell, 2006). The possibility to make the “correct” judgement can according to Simon be improved by training and construction of generalised operating procedures. Sourcing decisions can be seen as decisions that involve extensive qualitative judgement from decision-makers (Udo, 2000).

The statement made by Simon of increasing decisions-makers possibility to make judgement is interesting when comparing with the models presented by Cheon et al. (1995) and Lee et al. (2000). The model presented by Cheon et al. (1995) aims at describing determinants of the outsourcing strategy when deciding on using outsourcing in organisations. Cheon et al. give the following factors: Discrepancies in ICT, dimensions of ICT resources and an organisation’s ICT costs as perceived by decision-makers as factors that decision-makers should make a judgement about if the organisation should outsource or not. The model proposed by Cheon et al. builds on the fact that involved factors are possible to quantify, and they describe the outsourcing decision as a linear relationship (Cheon et al., 2001). Cheon et al. show that outsourcing decisions involve a complexity of factors, which makes it hard to make sourcing decisions but also that it is hard to do research about sourcing decisions. In that way Cheon et al.’s description can be related to Simon’s description of a non-programmed decision. Cheon et al.’s model shows that it is not possible to classify sourcing decisions as fully programmed decisions since they involve strategical standpoints that need judgement by decision-makers.
De Looff (1995) presents a framework that according to him could be used to describe different options in sourcing decisions. The framework consists of four different areas where different subjects are handled: Dimensions of the ICT function, provider of ICT, relationship between provider and client, and sourcing arrangement. In each of these areas there are underlying questions. The four areas are presented in the following way:

- **Dimensions of the ICT function**, which are described in three dimensions: First, ICT activities, which include planning, development, implementation, maintenance and operation. Second, ICT components, which are seen as hardware, software, data, personnel and work procedures. Third, the process supported or controlled by the ICT.

- **Provision of ICT**, which can be internal or external. The distinction between these two is how dependent respectively how independent the client and the provider are of each other in their businesses. In the framework there is a gradation indicating the degree of ownership and dependency between client and provider.

- **Relationship between provider and client**, which stresses six aspects on the relationship between the partners involved. These aspects stress contractual engagement as well as the partners’ engagement in non-contractual relationships. The first two of the six aspects indicate whether the supplier or the client is free to choose their business partners. The third aspect indicates whether the relationship is restricted to individual transactions or spans multiple transactions. The fourth aspect describes what the payment is based on. The fifth aspect indicates what controls the coordination. The sixth aspect discusses how disputes are resolved.

- **Sourcing arrangement**, which stresses the question of where the equipment is physically located. It also stresses the ownership of the equipment as well as who controls the activities. Exclusivity of the ICT as well as the employment of ICT personnel are two important aspects in this dimension.

According to De Looff (1995), the framework can be used for describing a sourcing option for evaluating existing sourcing situations. This is done by answering questions related to each of the above presented dimensions. For instance, when it comes to sourcing arrangement the question is who owns the
equipment? De Looff concludes that there is a lack of systematic analysis in the early stages of sourcing decisions, which supports this thesis. He also argues that sourcing decisions have a long-term impact and consequently must be based on a long-term strategy for the organisation.

Also Lee et al. (2000) present a theoretical model for outsourcing. They do so from Rudner’s (1966) description of theory, who describes theory as a systematically related set of statements which are empirically testable. The model Lee et al. (2000, 2003) present describes outsourcing in two stages: The stage before partnership based outsourcing and the stage partnership-based outsourcing. According to Lee et al., (2003) it is organisations with mature ICT department that have started to outsource by creating partnership-based outsourcing deals. They describe outsourcing and research about outsourcing as just having reached the second stage, focusing on the engaged partnership. The view they present for doing research in this subject is labelled, the integrative view of ICT outsourcing. This view is influenced by three perspectives: An economic perspective, a social perspective and a strategic perspective (Lee et al., 2003). Also this view supports the notion that deciding on using a specific sourcing option is a multifaceted decision that therefore can be classified as a non-programmed decision, decided on through a judgement of a set of different factors. This section describes how decision-making is made in programmed versus non-programmed decisions and suggests that sourcing decisions could be seen as non-programmed decisions. The question is then how this multifaceted decision is made in an organisation. To further describe that, it is of interest to look into the concepts of rationality, bounded rationality and irrationality and how these concepts can describe a sourcing decision process.

6.1.2 Rationality, Bounded Rationality and Irrationality in Sourcing Decisions

March (1994) as well as Salaman (2002) state that the norm to think about how decisions are made is that they are made as rational processes. According to Salaman, there are three types of rationality described by Weber and Parsons (1964), formal rationality, substantive rationality about how to do, and substantive rationality about the outcome. Bjørn-Andersen (1974) states that rationality has to be related to its context and he describes four directions for rationality: Objective rationality, subjective rationality, organisational rationality, and individual rationality. In the case of certainty and a stable environment, so that no new information in the decision process shows up, the
rationality can take the form of objective rationality, and this means according to Bjørn-Andersen (1974) that the decision-maker aims at the optimal solution. Halpern (1998) argues that decision-makers generally are rational in a logical sense. This means that they make decisions by choosing between alternatives and that they follow specific rules when they do so. March defines this kind of rationality as:

\[ A \text{ particular and familiar class of procedures for making choice} \ (March, 1994, \ p. \ 2). \]

This is in line with the most common way of describing decision-making according to Miller et al. (2002), who describe the rational decision-making process as a rational, logical and linear step-by-step approach consisting of the following five steps:

1. Identification of the problem that needs to be solved.
2. Collecting and sorting information about different solutions.
3. Comparing the different solutions with each other and against predetermined criteria.
4. Arrange the different solutions with respect to the decision-makers’ preference.
5. The decision-makers then choose the optimal solution.

According to Hatch (1997), Weber and Parsons labels formal rationality as formal authority, which is based on precise and generalised procedures and rules. Formal rationality is, according to Weber and Parsons, based on the use of numbers for calculation. This can to a high extent be said is the way Simon describes programmed decisions.

Substantive rationality according to Salaman (2002) consists of two modes. The first emphasises how the decision is made, which means that it can be expressed as rationality of the decision-making process. The second refers to the choice of outcome, but not to the outcome \emph{per se}. This kind of substantive rationality emphasises why the decision is needed at all and if the predicted outcome of the decision is reasonable. The first kind of substantive rationality emphasises how to do, and as such it can be seen in a classic sense of rationality, where the method for decision-making is chosen in a sensible and justified way for the intended outcome. The substantive rationality emphasising the outcome is often connected to personal and cultural settings, and as such it
can often be seen as irrational by an outsider. This way of expressing rationality is often open to dispute. My assumption is that a decision that from the decision-maker’s point of view is seen as rational can often from an outsider’s point of view be seen as less rational.

Making judgements and statements about rationality in decision-making is difficult. To be able to judge whether the decision and/or the decision-making are perceived as rational or not and say something about rationality, it is necessary to have facts about the decision. It is also necessary to make a description of what rational as well as irrational decision-making are. According to Simon (1976), managers operate under bounded rationality, and decision-makers’ intention is to show that they make rational decisions. This can be compared with the concept Salaman (2002) labelled distortion. It can be said that decision-makers’ behaviour is not wholly rational, nor is it wholly irrational (Miller et al., 2002). The basic assumption is, according to Brunsson (1985), that decision-makers in organisations behave in an irrational manner and they do so in order to fulfil the organisation’s objectives which are to produce action. The main task for an organisation is, according to Brunsson (1985), to coordinate activities and achieve results that go beyond what is possible for individuals to achieve. The basic thinking Brunsson (1985) gives is that organisational decision-making is decision-making made with collaboration between individuals and that the collaboration restricts the individuals’ possibilities to decide. This is, according to Brunsson, a view of decision-making that differs from the main part of research about decision-making that sees organisational decision-making as decision-making made by a single individual. The main bulk of research tends to evaluate decision-making processes as rational. However, according to Brunsson has empirical research found that decision-making processes can be described as irrational, and even more apparent this irrationality is not limited to minor decisions. According to Brunsson (1985) irrationality is common in decisions made about issues of major strategic importance. He gives three different explanations for why decision-makers behave irrationally. First, decision-makers are not knowledgeable enough to make rational decisions, which mean that if decision-makers were better educated more, rational decisions would be made. Second, irrationality is a natural part of human behaviour, which states that it is not possible to change the irrationality by education or training. Third, irrational behaviour is a result from practical constraints, which states that the irrationality is an effect of either too little information or too much information.
This means that one way to increase the rationality in decision-making is to provide the decision-makers with tools for collecting and sorting data relevant to the decision.

According to Brunsson (1985) none of these explanations are wrong, but if decision-making is to be understood there is a need to describe decision-making as aiming at organisational action. He says there is a need to understand that managers make decisions in order to get action and that they act and induce others to act. Focusing on organisational action instead of individual action means that the focus shifts from a study of cognition to a study of action. When studying action, it is not enough to study just how humans think any longer. According to Brunsson, the basic understanding of decision-making is that decision-making is seen as rational and that it consists of a linear step of choices. This is according to Brunsson not the right way of describing how decisions are made, and the main reason for that is that there are three conditions that explain why decision-making is not a linear step of choices: Expectation, motivation and commitment. The extent of these conditions explains the rationality of what Brunsson labels irrational decision-making. Brunsson (1985) describes irrational decision-making by using Simon’s decision-making model and he presents the following comparison of rationality versus irrationality in a decision-making process:

- **Searching for alternatives.** The rational decision-making states that “all” alternatives should be examined. This is in most cases impossible, and the solution is to reformulate it as “evaluate as many as possible”. In many cases only two alternatives are evaluated and a common strategy among managers is to present two alternatives, where one is clearly unacceptable. The reason for doing this is to increase the motivation and commitment to the other alternative. Brunsson (1985) also says it is not uncommon that only one alternative is examined.

- **Assessing consequences.** In a rational decision-making process, decision-makers are supposed to analyse all relevant consequences of the identified alternatives. This is impossible according to Brunsson because of the amount of information this demands as well as the time this would take. Both positive and negative outcomes should be described, which could increase uncertainty about the different alternatives. To avoid this, decision-makers tend to look for consequences in one direction only, and positive consequences are often
given priority. By avoiding uncertainty and concentrating on positive consequences, the enthusiasm for the proposed alternative is raised, and thereby also commitment and motivation for the proposed alternative.

- Evaluating alternatives. Brunsson argues that the rational decision-making model states that alternatives and their consequences should be evaluated against predetermined objectives. He describes this as dangerous since it could result in selection of an alternative not possible to implement. Another way is to start from the consequences and later on relate this to objectives. The result of this strategy, which is often seen as an irrational strategy, put forward organisational action in a better way. The objectives are used as arguments and not criteria for choice, and therefore the objectives become instruments for motivation and commitment.

- Choosing. This step is described as an automatically made decision after the preceding analysis. Brunsson argues that this step is not only concerned with choosing the alternative. It is also an expression of commitment of carrying out an action. This is not emphasised in rational decision-making models. According to Brunsson, it means that the ones who participated in the decision-making are also the ones who make sure that action happens.

From this it can be suggested that Brunsson defines irrationality in the following way: irrationality in decision-making means that decision-makers often does not know what they want to reach, they do not investigate enough alternatives or they do not take enough consequences into consideration, and they have a hard time to compare different alternatives with consequences (Brunsson, 1998). Since decisions vary to a great extent both in scope and in what the attempted consequences are supposed to be, there has to be different ways of making decisions. A comparison between Simon’s decision-making model and Brunsson’s description of decision-making is shown in Table 6-1. Important to make clear is that Simon’s model is more normative and prescriptive than Brunsson’s model. Brunsson’s model can be said is a model that more aims at describing decision-making, while Simon’s model more aims at prescribe how to make “better” decisions. Brunsson says there are two directions of decision-making: Decision-making as an attempt for organisational change and decision-making aiming at making a choice between
alternatives. The latter is according to Brunsson a typical rational decision-making process.

Table 6-1 Comparison between Simon's decision-making model and Brunsson's description of irrational decision-making

<table>
<thead>
<tr>
<th>Simon's model</th>
<th>Brunsson's model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stages</strong></td>
<td><strong>Explanation</strong></td>
</tr>
<tr>
<td>Intelligence</td>
<td>Investigate &quot;all&quot; alternatives aiming at answer the question, what alternatives are there?</td>
</tr>
<tr>
<td>Design</td>
<td>Aims at inventing, developing and analysing possible courses of action.</td>
</tr>
<tr>
<td>Choice</td>
<td>Selection of a particular action is made, aiming at selecting the alternative that is seen as the best solution for the problem.</td>
</tr>
<tr>
<td>Implementation</td>
<td>The aim of this step is to implement the chosen solution in the organisation</td>
</tr>
</tbody>
</table>

The three conditions, expectation, motivation and commitment, are according to Brunsson important to address when describing decision-making processes which aim at organisational change. Each of these conditions plays an important role in decision-making and can be described as a status within both the organisation as well as within decision-makers. In addition to the conditions motivation and experience also uncertainty and risk impact or influence the status of commitment in and of a decision-making process. My interpretation of how Brunsson describes the relations between these five conditions in decision-making is shown in Figure 6-1.
Figure 6-1 Relations between rationalities in decision-making

Figure 6-1 should be interpreted in the following way: Increase in motivation increases expectations; increase in expectations means an increase in motivation and a decrease of perceived risks. The figure shows that commitment to a great extent influences the decisions outcomes, and motivation among stakeholders is the factor that influences commitment. There is according to Brunsson (1985) another concept that needs to be discussed when discussing outcomes of decision-making and that is risk. The level of risk heavily influences the decision-makers to decide in different directions. In Figure 6-1 it is shown that increase in perceived risks increases uncertainty and thereby decreases motivation. However, I would suggest that a decrease as well as an increase of perceived risks will probably not directly affect the level of expectations.

Uncertainty is widely discussed in organisation theory, and there are a lot of different definitions of uncertainty. According to Hatch (1997), uncertainty was earlier considered to be a result of complexity and rate of change in the environment and seen as a property of the environment. The problem with that definition was that conditions in the environment were not experienced in the same way by everyone. According to Hatch, it is not environmental conditions
that make decision-makers uncertain but instead it is the decision-makers’ perception about the environment that results in uncertainty. According to Hatch, there are four different modes of certainty/uncertainty. These modes are, as described in Table 6-2, dependent on the amount of information available for decision-makers as well as if the decision-makers know what information they need. It is only in one mode decision-makers feel certain and that is when needed information is known and available. This is probably rare and to a high extent dependent on how decision-makers perceive the information they have available. Buchanan and O’Connell (2006) discuss decision-making from intuition and state that few decision-makers ignore “good” information when they have access to it, but, sometimes they do not have access to the information. Despite that research has shown that decision-makers that trust their instinct often make “good” decisions (Gladwell, 2006) and the reason for this is according to Buchanan and O’Connell (2006) that intellect informs both intuition and analysis. This statement is contradictory to Bazerman and Chugh’s (2006) statement that most individuals fail to bring the right information into their conscious awareness at the right time. They describe this as bounded awareness and argue that it is not the same as having information overload and that this happens even if the decision-makers have sufficient time to make the decision. The dominant reason for this bounded awareness is that the decision-maker is motivated to favour a particular outcome (Bazerman & Chugh, 2006).

Table 6-2 Links between conditions in the perceived environment, uncertainty, and information (Hatch, p.91, 1997)

<table>
<thead>
<tr>
<th>Complexity</th>
<th>Rate of change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Needed information is known and available</td>
</tr>
<tr>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Constant need for new information</td>
</tr>
<tr>
<td></td>
<td>Information overload</td>
</tr>
<tr>
<td></td>
<td>Not known what information is needed</td>
</tr>
</tbody>
</table>

Brunsson (1985) argues that there are difficulties in defining uncertainty. He relates the definitions of uncertainty broadly to two different stands: As something outside decision-makers defined as lack of information, or as a state of mind of individuals. The latter point of view is the one that Brunsson adopts. He describes uncertainty as a lack of confidence or belief in the decision-makers’ cognitive structure of a situation. This means that uncertainty is a lack of confidence in existing information and not lack of information (Brunsson,
The way I would define uncertainty is in line with the definition Madsen (2007) presents. She defines uncertainty as:

The individual’s and/or group of individuals perceived level of not knowing the appropriate course of action and/or its outcome at a given point of time (Madsen, 2007, p. 860).

Brunsson’s (1985) discussion about uncertainty reveals that uncertainty exist in three settings: 1) Uncertainty in cognitive structures, which means that decision-makers are unsure whether the “picture” of the situation represents a picture of the reality. 2) Uncertainty about judgements, which means that decision-makers experience uncertainty about how they should make the decision. The decision-makers are therefore unsure about “wanted” values, and if these values are good or bad. 3) Uncertainty about estimations, which occurs when decision-makers become unsure whether the estimation of a given value is correct. All these different kinds of uncertainties affect the level of motivation which results in an impact on decision-makers expectation and commitment (see Figure 6-1, p. 121). It can be proposed that uncertainty is of major interest when a decision-maker suggests decisions that influence a change.

When it comes to decision-making aimed at organisational change, Brunsson describes two ways for decision-makers on how they could propose changes in an organisation, rationalistic and impressionistic. The difference between these methods is how the decision-making starts. The rationalistic method starts with estimating value of the decisions outcome, and from that consider how to receive organisational action. The impressionistic method starts from the other direction by using the known values of the factors involved in the decision-making process. According to Brunsson (1985), the impressionistic method is much better at receiving organisational action. The reason for this is that the impressionistic method decreases uncertainty compared to the rationalistic method. This means that the rationalistic decision-making process decreases the motivation for making any changes. This can be compared with statements made by Udo (2000). He concludes that by using a systematic approach for decisions conducted under a high level of uncertainty, the level of uncertainty is reduced. If using Brunsson’s definition of uncertainty presenting more than one option does not decrease uncertainty instead it increases the uncertainty. Brunsson says that having more options to choose among increases uncertainty. However, according to Hickson et al. (1986), if uncertainty increases or not
when more options to choose between are presented depends on what the decision is about. It is also dependent on how strategic the decision is for the organisation. It can be proposed that in most cases and especially in the case of a sourcing decision increasing the number of possible options increases uncertainty.

Another impact on decision-making processes is according to Brunsson organisational ideologies. Organisational ideologies are described by Brunsson as organisations’ ability to act. According to Brunsson, three aspects of ideologies affect decision-making: Conclusiveness, consistency and complexity. The more conclusive, consistent and complex the ideology is, expressed as a strong ideology, the more adaptive to environmental change is the organisation. The opposite is present in the organisation with an inclusive, inconsistent and simple ideology. That kind of organisation is not triggered by the environment in its change. Brunsson labels this a changeable organisation while the other is labelled a changeful organisation. These two types of organisations differ in how they are controlled.

Brunsson (1985) contends that a political organisation has special difficulties in having organisational actions. The reason is that a political organisation builds on the basic assumption that there should be conflicts, which is a result from the fact that there are several different ideologies in a political organisation. This makes it harder for a political organisation to act. According to Brunsson, a political organisation should not be labelled as an organisation, rather, it would be better to label it as an arena for conflicts. However, conflicts do not solve problems, and the typical political organisation needs to solve problems. To solve problems in political organisations, they need to have an organising force. The solution is, according to Brunsson, to have a rationalistic behaviour, but that is not the best solution for having action. It is important to separate politics from actions in political organisations. To do that, most often the administrative organisation suggests the action which then is defended by politicians (Brunsson, 1985). The politicians are therefore heavily dependent on the experts in the organisation.

The conclusion from Brunsson’s discussion is that it is fruitful to distinguish between decision rationality and action rationality when describing a decision-making process. It can be suggested that decision-making processes that are described as irrational probably are rational from an organisational action point of view. It can also be concluded that irrational decision-making and
organisational action are influenced by power and politics involved in the decision-making process. The next section will address this.

6.1.3 Power and Politics in Sourcing Decisions

According to Simon (1997), there is in all descriptions of decision-makers one common statement and that is that a decision-maker is a person who is in the position of a choice leading to one or another direction. From Simon’s description it can be proposed that a decision-maker always choose between at least two options. Using Brunsson’s description of irrational decision-making, it is not clear that decision-makers always choose between two or more options when making decisions. Brunsson contends that a decision-maker sometimes uses a second option as a reference option or an option that obviously would be dismissed. The usage of reference options can be related to the discussion about power and politics in decision-making given by Pettigrew (1973).

According to Pettigrew, decisions made in organisations can not be explained without a reference to the history of that specific organisation. Pettigrew’s view of an organisation is that it is a hierarchy of status, power, rules, roles, and organisational goals. This is in line with how Simon (1960) as well as Brunsson and Olsen (1998) describe organisations. Pettigrew refers to Buckley (1967) saying that organisations exists in an environment and that organisations have to be restructured and worked at continuously. According to Pettigrew (1973), the assumption that decisions are made to fulfil decision-makers’ self-interest results from the recognition of choice and variability in social interaction. Organisational decision-making take according to Halpern and Stern (1998) place within an environment of limited or scarce resources. They say that the assumption that decision-makers have clear goals has been proved to be only partially true. The reason for that is that the organisation can have goals that conflict the individuals’ goals. Shapira (1998) states that the assumption of self-interest is central to organisational decision-making. The assumption about self-interest can be questioned according to Pettigrew for three reasons: First, individuals’ choice is limited by their perception of the situation. Second, it is also limited by the amount of available information. And third, it is restricted by the decision-makers’ place in the social structure. Despite this Pettigrew says actions from individuals’ are largely made with the intention of fulfilling self-interest. The three reasons described above make decisions aiming at fulfilling self-interest often has an effect contrary to that interest. That decisions contradict self-interest is influenced by power and the attempt to
increase power (Pettigrew, 1973). This can be described as social processes where the power among decision-makers is used to influence other decision-makers in their decision-making so that they thereby reduce their power.

According to Pettigrew (1973) it is possible to group theories about organisational decision-making in two groups: A group of economic-mathematical theories and a group of social behaviour theories. Pettigrew says that when studying what actually happens and tracing empirical decisions, social behaviour theories are to prefer, and at the time for his study the theories presented by March and Simon (1958) and Cyert and March (1963) gave the best assistance. The reasons that Pettigrew gives for choosing these particular theories are that they describe non-programmed decisions and they do that from an interdisciplinary point of view.

Cyert and March (1963) theory describes key economic decisions in organisations as a process-oriented model of the firm. It starts from the assumption that organisations’ overall objective is to maximise their net revenue. According to Cyert and March there is consensus about this assumption even if the market is seen as imperfect. Cyert and March argue that the assumption appears unrealistic. They say it is described as dependent on rationality which can be questioned from two standpoints: 1) Organisations seek to maximise profit and 2) organisations operate with perfect knowledge. Cyert and March say that the first standpoint is not correct since decision-makers sometimes decide in self-interest and not always aim at maximising profit for the organisation. I would propose that decision-makers’ self-interest influences decision-making, but, a better word for self-interest is probably conviction. I would say conviction is a better word since it can be suggested that a lot of decisions are made from the decision-makers’ perception that this is the best solution for them as well as for the organisation. March (1994) as well as Shapira (1998) describe this as maximising and satisfying and says that neither of these is likely to be observed in pure form.

The second standpoint is related to Simon’s (1960) decision-making model which states that decision-makers do not have direct access to necessary information. The fact that decision-makers have to search after information makes that available information cannot be perfect since decision-makers do not always know what information to search for as well as what information that exists. It can also be concluded that the order in which the environment will be scanned for information to a substantial extent impacts the decision that
will be taken. This means that options chosen between in the final step of Simon’s decision-making model are impacted by the options investigated in the first step. In other words, it could be expressed as that the option that will be selected in the final choice is more or less already selected when the investigation starts. This relates to March’s (1994) description of decomposition and decision-makers’ attempt to solve problems by working backwards, since that also could be seen as working from an already decided outcome.

Cyert and March (1963) thoughts about decision-making in organisations can be summarised in four assumptions: 1) The quasi resolution of conflict, 2) uncertainty avoidance, 3) problematic search, and 4) organisational learning. According to Cyert and March organisations learn about adaptation in three areas from a decision-making process: Adaptation of goals, adaptation in attention rules and adaptation in search rules. The learning then acts as input to the ongoing decision-making process in which the organisation tries to fulfil the goals of the next decision by managing the four assumptions described above. An important remark is necessary to make here, and that is that Cyert and March see decision-making as something that goes on continuously and the starting point is arbitrary. These assumptions are the base for a decision-making model presented by Cyert and March that to a great extent builds on the assumption that decision-making is rational. The model “demands” that uncertainty can be taken care of so that uncertainty does not exist. According to both Brunsson and Simon uncertainty is impossible to manage totally which means that uncertainty will always exist to some extent.

Cyert & March’s (1963) describes decision-making from an organisational point of view. Decision-making and organisational behaviour can also be described from an individuals’ point of view. March and Simon (1958) suggests three classes of individual behaviour in decision-making:

- A passive member without any initiating action or influence.
- A member of the organisation that provides it with individual attitudes, values and goals.
- A member of the organisation who is a decision-maker and problem solver.

In the latter class individuals in organisations could be described as fully rational. These classes are not contradictory to each other according to March
and Simon, and an adequate theory has to take all into account. Traditional organisation theory limits the decision-makers achievement in organisations, by describing humans as simple machines (March & Simon, 1958). Motivation and especially individual motivation is described by March and Simon as being an important factor that influence decision-making. Motivation is influenced by the alternatives that the decision-makers think about and the anticipated consequences for each of those alternatives, but also the consequent values of the present alternatives. March and Simon say the main way to motivate individuals is inducement in the form of payment from the organisation to the individual. From the organisation’s point of view this is seen as a trade-off between payment to its participants and contribution from the participants to the organisation.

My conclusion is that March and Simon describe decision-making as a rational behaviour. This means that decision-makers make decisions with the intention of assuring survival of their organisation and thereby fulfilling the goal of the organisation. This is not without problems and one problem concerns conflicts, expressed as: conflicts in individual decision-making, conflicts in a specific organisation between different individuals or conflicts between organisations. This relates to the concept of power and specially power between different individuals. According to March and Simon conflicts do arise from unacceptability, incomparability and uncertainty. March and Simon (1958) define conflicts as the breakdown in standard mechanisms in decision-making so that a difficulty in the selection of alternatives occurs.

Unacceptability is when decision-makers are in the position of identifying the outcomes of the alternatives but think none of them is good enough. This means that conflicts appear when decision-makers are forced to choose an alternative that from their experience not is good enough but some choice has to be made. In the case of incomparability the decision-maker knows the outcomes of different alternatives but cannot compare them to each other and is therefore not able to identify the most preferable. When it comes to uncertainty the decision-makers do not know the outcome of the alternatives. According to March and Simon the solution to the conflict differs depending on what reason the conflict is influenced from. If it is unacceptability the decision-maker will search for new alternatives. If it is incomparability, the chosen alternative most likely will be the first presented. And if it is uncertainty, the conflicts are solved by searching for clarification. I would say that it is probably a mixture
Chapter 6 - How Sourcing Decisions are Made

of these reasons that most likely cause conflicts and the solution to conflicts is probably also a mixture of the suggested actions. This means that solving conflicts includes searching for more alternatives which are compared with the first presented solution and in that way aiming for clarification.

The descriptions above about how conflicts arise do so from an individual perspective of decision-makers. Conflicts between individuals in the same organisation exist according to March and Simon (1958) in two types. The first is that the individuals have different acceptable alternatives in terms of individual goals and perceptions. The second is that the individuals’ different choices conflict with each other, the specific individual does not have a conflict but the organisation as a whole has. My conclusion from the last type of conflict is that it has its roots in that different actions are inconsistent with the overall goal of the organisation. This also means that the decision-makers are not in conflict with each other as long as the decision made by another decision-maker is not seen as interfering in the decision-maker’s own area. March (1994) says that conflicts in hierarchies is a result from the interaction between decision-makers at different hierarchical levels. He describes it as a “competition” between those who are at the top level (the successful) and those who would like to be there (the ambitious). In addition to organising individuals and the relation between them, hierarchies according to March (1994) also “create” individuals.

A conflict between decision-makers means that each individual suggests or prefers an alternative action (March & Simon, 1958). Brunsson (1985) does not agree with this and as described above conflicts can be, as in the political organisation, something that is influenced by the type of organisation. I also see individual conflicts as more or less connected to the nature of humans and to power and usage of power. March and Simon do not provide much information about what they see as influencing factors to this kind of conflicts. What they say is that it is more likely to be present if the decision is a non-programmed decision. They also relate the starting point of this kind of conflicts to how often the organisation is restructured and if the organisation acts in a changing environment.

Conflicts in decision-making have to be taken care of and according to March and Simon organisations do this in one of the following four ways: Problem-solving, persuasion, bargaining and politics. The first two ways, problem-solving and persuasion, are described as analytic processes by March and
Simon; the other two are labelled as bargaining processes. The question is when and why decision-makers in organisations favour the use of one of these processes over the other. To get some kind of answer to that question, the next step is to deepen the discussion about power and politics in organisations by referring to Pettigrew’s studies.

A central theme emphasised by Pettigrew (1973) is the use of power and politics in decision-making. Pettigrew, as stated above, builds heavily on the ideas presented by Cyert and March (1963) and March and Simon (1958). According to Pettigrew these authors implicitly mention power and politics in decision-making, but they do not consider power as a factor in the decision-making models which is necessary in order to fully understand decision-making in organisations. To understand Pettigrew’s statement, it is necessary to define both power as well as politics clearly. Pettigrew define political behaviour as:

*Behaviour by individuals, or, in collective terms, by sub-units, within an organisation that makes a claim against the resource-sharing system of the organisation (Pettigrew, 1973, p. 17).*

This means that political behaviour could be related to decision-making at a general level. Pettigrew also describes organisations as open political systems organised in sub-units that have specialised functions and responsibilities. Politics is thereby the act of securing resources from the whole organisation to the specific sub-unit which one’s interest belongs to. Heterogeneity in the demands and absence of a clearly system of how to make priorities results in conflicts among stakeholders in organisations according to Pettigrew. This explains why the concept power becomes interesting. Power is described by Pettigrew to be the way an organisation solves conflicts. Pettigrew defines power as the capacity someone has in a social system to establish or activate commitments that contributes to fulfilment of that individual’s goals. This means that power thereby stimulates conflicts between those who have power and those who want power (Pettigrew, 1973). Power is described by Pettigrew as closely related to authority, which he describes as the way power is used. Authority is thereby the medium that organise and legitimise power, and the hierarchical character of the organisation is probably important as well as norms and values. The next section discusses administrative behaviour and authority in organisations when they are making sourcing decisions.
6.1.4 Administrative Behaviour and Authority in Sourcing Decisions

As described above, power between and among different decision-makers influences and impacts to a great extent how decisions are made in an organisation. This can be related to the concept administrative behaviour presented by Simon in “Administrative Behaviour” from 1947. In the fourth edition of that book he states that the text from the original book is kept intact. The reason for that is that the subject is organisations which have been with us for at least four thousand years (Simon, 1997). According to Simon the common understanding of administration is that administration describes how tasks are done. Simon (1997) expands this by stating that administration is not just about how to secure effective action, but it is also about the process before “doing”, which means that it also involves deciding and the process of decision-making. Simon labels this as the process of choice. The other term, behaviour, is described as the selection of a particular action, conscious or unconscious, from the actions that are possible to choose from. As I interpret this, behaviour is synonymously with acting in decision-making, and what Simon discusses is how decision-makers act when they make decisions.

According to Simon (1997) all decisions are a matter of compromise and never permit a complete or perfect achievement of the objective of the decision. It is merely the best solution received under the present circumstances. Halpern and Stern (1998) claim that when decision-makers are faced with a choice, they do not decide blindly. Instead they try to make the “best” decision. This means that the chosen solution always is the best solution for the organisation. In my view what Simon describes when discussing the physical task of fulfilling the objectives of an organisation is execution of decisions. According to Simon this is mostly done by people at the lowest hierarchical level in the organisation. Simon labels the fulfilment of the physical task as authority. In my view the people at the lowest hierarchical level are not the ones who have the greatest influence upon the outcomes. My standpoint is that the higher up in the hierarchical level the decision-maker is in the organisation, the more influence on the outcomes the decision-maker has. In my view this is what authority is about, at least formal authority. Simon distinguishes between formal and informal authority and says that formal authority exists in the hierarchical organisation. According to Simon the size of the organisation makes it harder to both recognise and manage formal authority. If there are several hierarchical
levels in the organisation, top managers cannot have direct influence on all employees at the operative level. To manage this there has to be intermediate managers, and according to Simon (1997) the risk is that decisions from the top is modified before it reaches the operative level.

According to Simon this is a question of centralisation or decentralisation. Another question is relations between departments and especially how to manage authority. Despite the fact that Simon’s description is from 1960, I would say that it still is relevant, since the basic structure of a hierarchical decision-making and authority still exists and it does so independent on that the way organisations are described and how it is affected by the surrounding environment has changed a lot. The question of centralisation versus decentralisation is not according to Simon a question whether an organisation should decentralise or centralise; instead is it a question of how far it should decentralise or centralise. The trend of centralisation versus decentralisation in how an organisation should be organised goes forth and back as times goes (Simon, 1960). Centralisation versus decentralisation is to a high extent relevant both to how decisions are made as well as to outcomes of decisions. This can be compared to the discussion delivered by Rogers and Blenko (2006). They describe four bottlenecks for why decision-making stall in organisations: Global versus local, centre versus business units, functions versus functions, and inside versus outside partners. The way to take care of these bottlenecks is according to Rogers and Blenko (2006) to clarify decision-makers’ roles in decision-making. In Chapter 8 relations between centralisation and decentralisation as motives and how it influences a sourcing decision-making process will be discussed in more detail. Before that this discussion about how sourcing decisions are made will be summarised in four propositions.

### 6.2 Propositions about How Sourcing Decisions are Made

This section presents four initial propositions about how sourcing decisions are made in organisations when deciding on hosting of software applications. These propositions are then used in Chapter 8 when the analysis of the investigated sourcing decisions is made. The propositions are developed from the concepts: Irrationality, organisational action, power and politics, and authority. Based on a discussion about these concepts four propositions are suggested. The first proposition that will be suggested deals with irrationality in sourcing decisions.
6.2.1 A Sourcing Decision Process is an Irrational Decision-Making Process

It can be suggested that irrational decision-making to a great extent describes how sourcing decisions are made. By using the description from Section 6.1.2 about irrational decision-making (Brunsson, 1985) and combining it with bounded rationality (Simon, 1977) and compare it with a rational decision-making process, it can be suggested that a sourcing decision process is best described as an irrational decision-making process. The first step in a rational decision-making model is often described as to make a search for all alternatives, meaning that all possible options are searched for. Comparing this to sourcing decisions, I would suggest that sourcing decisions is not done strictly in such way. It could be that decision-makers search for all alternatives, if doing that means that the decision-makers investigate all options they know something about. But, it can be proposed that the search for alternatives is restricted though the decision-makers probably do not even search for information about all alternatives they know something about, or that the decision-makers is restricted in what they are supposed to do. This latest statement could be related to the IT governance as described by Ross, Weill and Robertson (2006). The next step in a rational decision-making model is to assess consequences to all alternatives, also in this step what happens is that a smaller amount of options are investigated. According to Brunsson, this is seen as irrational from an outside perspective and according to him should all options be investigated if the decision-making should be called rational. The third step is to evaluate the alternatives. A consequence is that if the earlier step was irrational even this step becomes irrational. This depends on the view of rationality and if this is seen in such a way that as all alternatives and all consequences most be evaluated. The final step in a rational decision-making process is according to Brunsson the act of choosing one option. According to Brunsson also this step can be described as irrational if the alternatives that are chosen between are limited and there are one alternative that is the obvious choice and it is obvious that the other alternatives are alternatives that not will be chosen. I would argue that using Brunsson’s definition of irrational decision-making is the most appropriate way of describing a sourcing decision. Doing that means that a proposition regarding the nature of sourcing decision can be formulated in the following way:

**Proposition 6:** A sourcing decision process can be described as an irrational decision-making process.
6.2.2 A Sourcing Decision Process is influenced by the Need to Show Organisational Action

According to Brunsson (1985) decisions are often made in an irrational decision-making way because the aim of making the decision is to have organisational action. This indicates that the need of showing organisational action influence how sourcing decisions are made. If an organisation would like to show organisational action during a decision-making process an irrational decision-making process is probably not the best. But, if the organisation wants to have action from the decision-making process, the irrational decision-making process is according to Brunsson the way the decision should be done, and the reason he gives for that is that an irrational decision-making process increases commitment.

That sourcing decisions aim at organisational action can be seen as closely related to the question why sourcing decisions starts, such as the thoughts about having increased capability that were suggested in proposition 3 in Section 5.3.3. It is also related to how the decision is made in the way that if the aim of the decision is to have organisational action it influences how the decision is made. This can also be related to Brunsson’s description of making decisions in a specific way just to have organisational action.

The influence of organisational action on a sourcing decision can be described in two different ways. First, organisational action can be seen from an outside perspective, which means that the decision-making process is made with the purpose of showing external shareholders that the organisation makes something. A statement showing that could be expressed in this way: The outsourcing deal was made just to show the stakeholders some action and was just an attempt of increasing the value of the organisation at the stock exchange. This statement was supported in the interview with the Saw Manufacturer’s CIO. The second way is to describe organisational action from an inside perspective, which means that the organisation needs to do something in order to be better prepared for something. To be better prepared for something could for instance be to be able to deliver services around the clock seven days a week, which was supported in the interview with the Furniture Company’s CIO. It can also be that the management of the organisation wants to have action in the organisation just to show that they do something and make the change for its own sake. This latest statement was raised in the interview with the Storage Company’s CIO.
It can be proposed that having organisational action after a decision demands that there are high commitment on the intended outcome from the decision among those who are influenced by the decision. In Figure 6-1, p.121 it was suggested that outcome of sourcing decisions, and if the sourcing decision will result in wanted organisational action or if there will be problems with the implementation of the sourcing decision, are heavily impacted by the commitment of the taken decision. This means that the decision-making process aims at increasing commitment on the outcome of the decision. One way of increasing commitment is that the decision-makers try to decrease their one uncertainty as well as the uncertainty among the stakeholders who are impacted by the decision. To do this it can be proposed that the irrational decision-making process discussed above is the way the decision-makers conduct the decision-making process. This can be exemplified by that the alternatives that are presented is restricted and the reason for doing that is that the decision-makers want to reduce uncertainty. It could be that uncertainty would decrease if more alternatives were presented. But, I would suggest that the less options you have to chose between the less uncertainties there exists.

From this it can be proposed that the aim of sourcing decisions is to have organisational action, and the following proposition can be suggested:

**Proposition 7:** A sourcing decision process is made with the aim of having organisational action.

### 6.2.3 A Sourcing Decision Process is influenced by a beforehand Decided Outcome

It can be suggested that the outcome from a sourcing decision is influenced to a great extent by the process. It could also be the reverse and that the outcome directs how the process in itself is made. This in line with how Brunsson (1985) describes an irrational decision-making process. Relating this to a sourcing decision it could be described as that if the wanted outcome of a sourcing decision process is outsourcing then the decision-makers uses outsourcing cases as references in the decision process. It also means that they emphasise more on benefits with outsourcing at the same time as they emphasise on risks or drawbacks with the opposite solution.

It could also be suggested that sourcing decisions to a great extent therefore is made as a project. By stating that, some assumptions about a sourcing decision process follows. Firstly, a project has more or less a clear view of the result or
in other words a project aims at a specific result. By comparing sourcing decisions with a project, it can be suggested that a sourcing decision has a desired end. That it has a desired end means that there probably already at the start of the project are some thinking about the outcomes of the decision. This can be compared to the discussion above about making decisions as irrational decisions aiming at organisational action. That it has a desired end does not necessarily mean that the outcome of the decision is always decided on in advance. But, I would propose that in a lot of sourcing decisions this could be the case. It can also be that a sourcing decision process has some time scheduling and just as in the case of a project something has to be reported at the end of the process. This means that both a desired end as well as the time restrictions influences the process and how the process is conducted to some extent. From this discussion the following proposition can be suggested:

Proposition 8: A sourcing decision process is maybe influenced by a beforehand decided outcome.

6.2.4 A Sourcing Decision Process is influenced by a Specific Decision-Maker

It can be suggested that outcomes as well as the start of a sourcing decision process are influenced to a great extent by the people who make the decision. It could also be suggested that the process as such is influenced by a specific decision-maker. This influence can be directed in at least two ways: First, the decision-maker probably has more or less an opinion of how the decision-making process should be conducted, and, second, the decision-maker probably also has some opinion about the outcome of the sourcing decision.

It can be argued that this to high extent summaries earlier presented propositions. It does so by stating that the way the decision-making process is conducted to a high extent is influenced by the thoughts the “main” decision-maker has on how this should be done. This means that if the decision-maker sees it as important to make a rational decision-making process, the decision-making process is impacted by that and the process follows a rational decision-making approach. If the decision-maker sees it as important to focuses on organisational action, the decision-making process is impacted by that and the process then probably are conducted in the way Brunsson describe as irrational. This discussion gives the following proposition:

Proposition 9: A sourcing decision process is maybe influenced by thoughts a specific decision-maker has on how the sourcing should be done.
6.3 Chapter Summary

This chapter has discussed and presented propositions about how sourcing decisions are made. The chapter started with giving a general discussion about decision-making in organisations. It did so by presenting models over decision-making and basic assumptions about decision-making from four different perspectives. The first perspective is the one described by Simon (1960) in his decision-making model. That model describes decision-making as a rational process consisting of the following steps: intelligence, design and choice. The model by Simon has been widely used and could be said to describe decision-making to some extent. This model was questioned and the conclusion is that decision-making is not made in such a rational way. This led to a discussion of bounded rationality and the next perspective which was irrationality, as described by Brunsson (1985). According to Brunsson, decision-making in organisations is most often done in what he calls an irrational manner. This means that from an outsider perspective decision-making is often seen as irrational. From the decision-makers perspective, it is seen as rational since the decision-maker acts in the interest of having organisational action by doing the decision in that way. The chapter presents this thinking in Figure 6-1, p. 121. High commitment is according to Brunsson needed if the implementation of the decision should be successful. This is described as one reason for why decision-making can be described as made in this irrational manner. The statement from Brunsson is in line with the assumption that Simon gives about decision-making when he describes it as that decision-makers often start from the last step, the choice step, when they start the decision-making process, and that gives the direction for the rest of the process. Another concept that is discussed in this chapter and that is of importance for understanding decision-making is programmed versus non-programmed decisions. The differences between these two are that in programmed decisions there are guiding principles for the decision-makers while in non-programmed decisions there are not much help for the decision-maker. This means that the more non-programmed the decisions are, the more irrational the decision-making process is probably seen as. The concepts of power and decision authority and how it influences the decision-making process was discussed from statements made by Pettigrew (1973) and Simon (1997). It is concluded that power is something that influences decision-making to a great extent. This could also be said about decision authority, which can be described as power of the decision-maker. Related to this is the question of centralisation or decentralisation, and it is
argued by for instance Simon (1960) that it is not a question of whether an organisation should centralise or decentralise; instead it is a question of how far an organisation should decentralise or centralise.

At the end of the chapter, four propositions were suggested that describe a sourcing decision process as an irrational decision-making process that aims at having action in the organisation and has a beforehand decided outcome and also to a high extent is influenced by a specific decision-maker’s idea of how the process should be conducted. These propositions are used in Chapter 8 when the analysis of the investigated sourcing decisions is made. Before that the next chapter, Chapter 7, presents the investigated organisations and their sourcing decisions.
Part III – Describing and Explaining Why and How Sourcing Decisions are Made

Part III, the final part of the thesis, describes, analyses and explains why and how organisations’ sourcing decisions regarding hosting of software applications are made. It does so by first presenting the organisations and describing each sourcing decision-making process that have been investigated in, Chapter 7 - Two Organisations and their Sourcing Decisions. Part III then continues with an analysis in Chapter 8 – Findings about Why and How Sourcing Decisions are Made, from the empirical data in Chapter 7 as well as from the initial propositions presented in Chapter 5 and in Chapter 6. Finally, in Chapter 9 – Conclusions and Implications of the thesis are presented.
Chapter 7 - Two Organisations and their Sourcing Decisions

This chapter describes the two organisations, Posten AB (MeLo) and Jönköpings Kommun (the municipality), and how they have organised hosting of their software applications. It also describes why and how these organisations made a sourcing decision. In the organisations a sourcing decision-making process where the organisations decided on how they should host their software applications in the future has been made. The chapter first describes Posten AB in Section 7.1, and then it describes Jönköping Kommun in Section 7.2. The respectively description starts by giving an overall view of the organisations, and then it describes the sourcing decision-making process and what decisions that have been made and the result of the decision process. It also reports reasons given by decision-makers why the organisations started the sourcing decision as well as why they decided as they did in the process.

The aim of the chapter is to give a clear picture of why the sourcing decision was started, how the sourcing decision was made and why outcomes at different stages in the process become what it becomes in the organisations. The chapter ends with a summary of the cases and compares the organisations and their sourcing decisions.

7.1 Posten AB (MeLo) and its Sourcing Decision

In this section Posten AB and the sourcing decision that was made in Posten AB, which resulted in outsourcing of software applications hosting in 2003, is described. Posten AB is a Swedish large public organisation focusing on Messaging and Logistics, and it is hereafter referred to as MeLo. According to the CEO, MeLo’s services are of world-class standard. In 2004, MeLo had approximately 35,000 employees and a turnover of 25 Billion SEK (MeLo’s Annual report, 2004). The mission of MeLo is:

To connect people and businesses by delivering its services reliably, cost-effectively and on time. MeLo aims to create outstanding customer and
business value by combining conventional and electronic services\(^5\) (MeLo’s Annual report, 2004).

The vision is expressed in the following way:

*The vision is to be the sought-after hub of the wheel that keeps Sweden rolling, and the logistical network that connects the Nordic region* (MeLo’s Annual report, 2004).

MeLo has during the 1990s gone through a deregulation from acting in a monopoly market to being forced to act in a competitive market. MeLo’s CEO states that:

*We have reorganised MeLo from a production-oriented organisation to one that is managed strictly according to business principles.* (MeLo’s Annual Report, 2000).

This is described by the CEO in the following way:

*MeLo operates under a unique set of circumstances: We are both publicly regulated as well as subject to free market competition. In addition, we must fulfil certain financial and asset growth targets by the Swedish state, our owner. MeLo and its public service counterparts create value not only by providing services, but also through effective resource utilization* (MeLo’s Annual Report, 2001).

At the same time the ICT strategy has a new direction resulting in a standardisation of workstations and the e-mail system. The CEO describes the continuation of this work by giving the following statement:

*We have decided to proceed with stringent standardisation ICT solutions* (MeLo’s Annual Report, 2000).

During the past year great changes in MeLo have been made, as shown in Figure 7-2, p.145 and one of these changes is the outsourcing project described in Section 7.1.3. To some extent the changes can be said to depend on the owner structure and the change from acting in a monopoly to acting in a competitive market as described above. To describe the background of the sourcing decision-making process that has been made in MeLo regarding a

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\(^5\) Since the interviews and the documentations are in Swedish, citations are translated. During the translation expressions from the original language are kept as close as possible. Citations from MeLo’s annual reports are not translated since the annual reports used were the English versions.
Chapter 7 - Two Organisations and their Sourcing Decisions

decision on hosting of software applications in the future, MeLo’s corporate structure and the changes in the structure are described in the next section.

7.1.1 MeLo’s corporate structure and its changes

The corporate structure of MeLo in 2004 is shown in Figure 7-1, p. 143. In 2003 MeLo restructured its businesses into two business segments: Messaging & Logistics, and Payment Services. The Messaging & Logistics comprises two divisions, Marketing & Sales and Production & Logistics. The executive management responsibilities in MeLo cover only the business segment Messaging & Logistics. Customer service is a subsidiary fully owned by MeLo. The management of the business segment Payment Services is made exclusively by the customer service’s own board of directors (MeLo’s Annual report, 2004). The division Production & Logistics is responsible for creating cost-effective logistics streams, while the division Marketing & Sales is responsible for MeLo’s revenue-generating business operation. The business operation is described as consisting of its line of products and services, pricing and channel strategies, and sales and marketing communications (MeLo’s Annual report, 2003).

![Figure 7-1 Corporate structure of MeLo 2004 (MeLo's Annual Report, 2004)](image)

MeLo’s corporate structure in 2004 differs a lot from the structure used in 2001, shown in Figure 7-3, p. 146, which was previous to the sourcing
decision-making process that resulted in outsourcing of MeLo’s hosting of software applications. The chairman of MeLo’s board describes the aim of the restructuring of MeLo’s corporate structure, adopted in 2003, in the following way:

*The transformation’s core aim is to simplify doing business with, working for and managing MeLo. The new organisation has a relentless focus on the customer and clearer responsibilities (MeLo’s Annual report, 2003).*

The chairman also states that:

*By working in closer concert the board and executive management can leverage a deep pool of marketing, logistics, financial and operational expertise.*

MeLo’s CEO describes it in the following way:

*Simplicity and customers focus are trigger point. In light of today’s fast-paced business environment and changing times, MeLo must be able to effectively follow-up and manage its business. Sustainable profitability requires both increased revenue from existing and new customers as well as leaner costs. Going forward, MeLo will continue to be characterized by a culture of change. As part of the transformation, we announced a reorganisation of MeLo’s operations during the year, replacing the matrix organisation with two divisions (MeLo’s Annual report, 2003).*

However, the role of ICT in MeLo has changed during the years and this is reflected in the place and attention ICT has received in the corporate structure. MeLo’s IT manager states that:

*During the years 2000 and 2001 the ICT agenda was focussed on e-services to a very high extent. Everything should be done as an e-service.*

MeLo’s IT manager also states that:

*One way to be able to focus on e-services was to outsource and thereby get more money available for paying the development.*

Figure 7-2, p. 145 gives an overview of the organisational changes that has been done in MeLo 2000 - 2004. There have been two major reorganisations of MeLo’s corporate structure, the first in 2000 and the second in 2003. At the same time the IT department has been reorganised. There have also been two outsourcing contracts signed, with an impact on MeLo’s corporate structure. Another major work that has been done during these years is the E25 program.
The E25 program was a program that aimed at improving the efficiency of the administration and thereby decreasing costs with 25 per cent, which was the reason for why it was labelled E25. The E25 program and its relation to the sourcing decision are described in more detail in Section 7.1.3 p. 154.

Figure 7-2 Organisational changes in MeLo

To describe organisational changes made in MeLo during the same time as the sourcing decision-making process took place, it is necessary to start with describing MeLo’s organisation after the reorganisation in 2000. MeLo made a major restructuring in 2000 of its entire organisation. MeLo was before this restructuring organised in six business units and could at that time be described as an organisation with high level of decentralisation. The change was based on the policy aiming at transforming MeLo from a production-oriented organisation to a more market-oriented organisation (MeLo’s Annual Report, 2000). The change in 2000 resulted in the structure shown in Figure 7-3, p. 146. The organisation still consisted of business units, but the concept of business segments was introduced. The major change was that MeLo’s corporate structure was organised into three major parts: Business units, support functions and customer channels. The change meant that MeLo became even more decentralised than before.
MeLo’s corporate structure, a highly decentralised structure, shown in Figure 7-3 was the same before as after the first outsourcing. The structure that was implemented in 2000 builds on business units. In 2001 there were seven business units: International mail, Administrative communication, Individual, Market communication, eCommerce and logistics, Outsourcing, and Customer service.

When the structure was implemented in 2000, there was a decision that the number of business units should not be fixed. It is unclear what should decide the number of business units. In the annual report from 2000 it is described in the following way:

**Business units are units in charge of MeLo’s services and service development based on the market segments where MeLo is active. The business units are not fixed in number. New business units may be established or discontinued in line with changing market demands (MeLo’s Annual Report, 2000).**

The customer channels in the figure are “units” that are supposed to have customer contacts for all business units. The business units are then supposed to develop services with the help from “units” within the support functions. This organisational structure meant that MeLo was decentralised to a high
extent. One reason given for not fixing the numbers of business units was that
the business units should have the possibility to react on changes in the market
segment by themselves. This structure resulted in some problems that MeLo’s
chief controller describes in the following way:

Executives at different business units were fighting to a high extent to be
able to implement the projects that they saw as most necessary for them.
The coordination between them was weak and the CEO did not have the
possibility to make the right judgement on which project to invest into.

In addition to the business units also the support functions, the customer
channels and the corporate management functions had one executive each that
were supposed to report to the CEO. This meant that MeLo’s CEO had to be
informed from 18 executives to have the total picture. MeLo’s IT manager says
that:

The executives at the different units battled against each other and they
all drove their own race and it was impossible for the CEO to have a grip
over what was necessary to do or not necessary to do among all the
suggestions that come up.

During 2001, the corporate management functions as shown in Figure 7-3, p.
146 consisted of six different areas: 1) Accounting, Finance and Law; 2)
Customers and Quality; 3) Market and Business Development; 4) Product and
Service Coordination; 5) Quality, Environment and Security; 6) and Human
Resources. The executive management in 2001 consisted of an executive
committee and a corporate management group. The executive committee
consisted of three people: The CEO, the Chief financial officer (CFO), who
also was Head for corporate management functions 1 (Accounting, Finance and
Law) and 2 (Customers and Quality), as well as the executive vice president
which also were Head for corporate management functions 3 (Market and
Business Development) and 4 (Product and Service Coordination). The
corporate management group consisted of seven people: CIO, Head of
Production, Head of Sales, Head of Communication, Head of Service network,
Head of Market Communication, and Head of Human Resources (MeLo’s
Annual report, 2000). In total this means that MeLo’s executive management in
2000 consisted of 10 people, the executive committee (three people) and the
corporate management group (seven people).
There were some minor changes made regarding the organisational structure between 2000 and 2001, concerning some name changes of the units. The most obvious change was made within the executive management resulting in the expansion of the executive management during 2001 when the group was increased by 6 people. In addition to the ones described above, also the Head of International Mail, Head of Administrative Communication, Head of Individual, Head of eCommerce and Logistics, Head of Outsourcing, and Head of Payment Service were part of the executive management. This means that during 2001 the executive management consisted of 16 people. The support function IT was not represented in the executive management group neither in 2000 nor in 2001. Despite that, the following statements can be found in MeLo’s annual report from 2000:

*MeLo is concentrating its operations on the message forwarding and logistics markets with a strong component of internet-based technology... and... Aimed at giving customers greater freedom of choice, MeLo will also be introducing several electronic services for consumers based on a contractual relationship with the recipient.*

This indicates that ICT is seen as important at the same time as ICT does not have a strong representation in the executive management. How the IT department is structured and its changes from 2000 and forward are described in the next section.

### 7.1.2 Structure and Changes of MeLo’s IT department

MeLo has gone through some major changes of its entire corporate structure and these changes have affected MeLo’s structure regarding ICT. The major change regarding ICT in 2001 was that a support function labelled the IT department was created, as shown in Figure 7-3, p. 146. In 2001 the IT department had the structure shown in Figure 7-4, p. 149 (MeLo’s IT manager). The role the IT department had consisted of facilitating the migration of service development towards integrated solutions, and the department managed MeLo’s electronic services and internal information systems (MeLo’s Annual report, 2001).
In 2001 the IT department was localised at four different places and had 650 employees. MeLo also engaged a lot of consultants in addition to the work staff employed. According to MeLo’s Chief controller the total amount of manpower that had work tasks related to ICT was in the beginning of 2000 around 1,000 employees, including consultants. The number of employees is somewhat diffuse and the reason for that is described by MeLo’s IT manager in the following way:

> From the beginning we calculated that there were around 200 employees in the production (outside the IT department) that worked with ICT and thereby could be seen as ICT employees. But, we have difficulties in finding the correct number. Since, it is unclear how to categorise them. We have said that if somebody work more than 50 per cent with ICT related work tasks that person should be categorised as an ICT employee. The problem is that when it comes to a question of decreasing the numbers of employees the percentage of ICT related work tasks suddenly decrease and the department that the specific person works at fights for keeping that person.

When calculating the total amount of manpower working with ICT it becomes 650 employees ($400 + 20 + 30 + 200$) plus approximately 350 full-time consultants. MeLo’s Chief controller describes the change regarding consultants that has taken place in MeLo by stating that:

> The thoughts of engaging consultants are to cut peaks in the workload and to cover up gaps in the competence in the own organisation. Gaps in competences are something that we try to manage by increasing employees’ competence.
In a press message MeLo’s CIO says:

*MeLo have had a lot of consulting firms engaged, but now we will only engage consultants in peaks and if we need competence from specialists. The lower demand of consultants does not depend on the outsourcing deal (Press message MeLo, 2004-05-05).*

The outsourcing project that is described in Section 7.1.3 is the second outsourcing that MeLo has made so far. During the years 2000 to 2001 MeLo made its first outsourcing deal. In order to understand the background of the second sourcing decision-making process, it is necessary to describe the first outsourcing process to some extent. When this started the amount of working hours including consultants reached 1,000 employees. These were localised in eleven different places. The first outsourcing contract was signed in 2001 and there were around 130 employees who changed employer that time (MeLo’s IT manager). The first outsourcing deal meant that PCs and the local area network (LAN) were outsourced to an external provider. According to the IT manager, there is a close connection between the work tasks that were outsourced in the first outsourcing process and the work tasks outsourced in the second outsourcing process. He states that:

*It can be said that you do not have to split these two apart. It could certainly be done at the same time. However, the case was that there were a split and when the first outsourcing was made everybody just talked about when the next decision to outsource should be a fact.*

The result from the first outsourcing deal was that the standardisation of workstations made the attempt of standardising of ICT solutions easier and quicker. It also resulted in a decrease of places in which MeLo had employees working with ICT. There was a reduction of the places from eleven to four (MeLo’s IT manager). The first outsourcing deal did not change MeLo’s organisational structure; neither did the first outsourcing at the beginning make any changes in the total costs for ICT. The Chief controller describes one experience from the first outsourcing in the following way:

*One experience gained from the first outsourcing is that cost benefits are dependent on how you write the contract and how fast you can manage to rationalise.*
MeLo’s Chief controller also states that:

*In the first outsourcing it took too long time before we saw any effects on the costs, we saw it first after 18 months, and that is to long time I think. It resulted in that the second outsourcing and its contract was created in a way that we saw the effects already from day 1, and that is quite a difference. When we now have the results from the first year of the second outsourcing we can see that it follows the plan and we have received the outcome that we expected to have.*

During the interviews with MeLo’s IT manager and the Chief controller, they both state that the organisation before the restructure in 2003 was too decentralised. The Chief controller describes the problem with the structure in the following way:

*The CEO was not able to have a total grip over the organisation and especially when it comes to ICT and the reason for that was that he had to talk to or be informed from 18 different executives to have the total overall control and that was not doable.*

One of the effects of the restructuring in 2003 was that the executive management was reduced from 16 to six people. The new executive management team comprised of the following: The CEO, Executive Vice President Marketing & Sales, Executive Vice President Production & Logistics, Executive Vice President Human Resources, The Chief Financial Officer (CFO), Senior Vice President Corporate Communications, and the Chief Information Officer (CIO) (MeLo’s Annual report, 2003). MeLo’s IT manager says that:

*Before the reorganisation there was the CEO and then there was a huge amount of units and IT was one of these, but this disappeared when the new CEO arrived.*

Another effect of the restructuring in 2003 was the placement of the IT department in the organisational structure. In the organisational chart from 2001, Figure 7-3, p. 146, IT is placed as a support function without presence in the executive management group. In the executive management group there was a representative that had the title CIO. However, he was not responsible for

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6 The CEO is not included in these numbers.
the support function IT. The role and responsibility of the CIO before 2003 was mainly to inform the CEO and make sure decisions from the CEO and the board of directors regarding ICT was executed in the right way (MeLo’s IT manager). Despite the fact that he was one of the eighteen executives that all had the responsibility to inform the CEO, he had to collect information from a large group of people. The governance structure at this time was highly decentralised, resulting in that different units made a lot of decisions and investments that did not correspond to each other. The result from this was, according to the chief controller at MeLo, that the costs for ICT were higher than it had to be. The chief controller states that:

*It was possible to make investments without taken into consideration that investments made will result in costs for the organisation during a long period afterwards.*

It can be claimed that the overall control over ICT was weak. The chief controller also states that:

*The knowledge that if one makes investments in development year one it will result in higher costs in maintenance and operation year two and year three and so on was not taken into consideration... and... It has been possible to order both this way and that without any reflection that it will give the organisation a cost for a long time.*

The restructuring also resulted in a new structure of the IT department, especially when it comes to the role and responsibilities for the CIO. The “new” IT department, as shown in Figure 7-5, p. 153, consists of three different units: IT development - business specific software, IT production and IT development - common software. The two IT development units have work tasks that more or less are the same. According to MeLo’s IT manager, they both deal with development and maintenance of software applications. The unit IT development business specific software focuses on development and maintenance of software applications that have a close connection to MeLo’s businesses and deal with software applications that are developed specifically for MeLo. While IT development common software focuses on software applications that could be described as software packages and they deal with software applications that are used more or less by everybody in MeLo such as e-mail system but also MeLo’s enterprise resource planning system (ERPs) in the form of SAP R/3 system, HR system and accounting system (MeLo’s IT manager).
The unit IT production consists of three sections: ITIL (Information Technology Infrastructure Library), Procuring unit and helpdesk. ITIL’s role is to develop ITIL in MeLo and make sure that MeLo follows the rules that ITIL suggests. ITIL was implemented in MeLo in 2003, and aims at increasing control and give a set of directives for how MeLo should work with ICT. The procuring unit is the unit that has the responsibility of making orders and maintaining the contract between MeLo and its providers of ICT. This means that all new services that MeLo wants or needs are ordered from the procuring unit. They also control if the providers give the right services and if they follow the service level agreements (SLAs) that are signed between MeLo and its service providers. The helpdesk unit is the unit that has the direct contact with all users at MeLo if they have any problems with software applications. Helpdesk also has connections with MeLo’s service providers if the problem that a user has relates to the hosting of the software. However, helpdesk does not have the decision-rights to order, for instance, new functionalities or order more capability even if that is necessary to solve the problem. According to MeLo’s IT manager, to do that the procuring unit has to be involved.

So far has MeLo’s corporate structure and management of MeLo before as well as after the second sourcing decision-making process and the outsourcing that the decision process resulted in been described. The next section, Section 7.1.3,
will describe how the outsourcing project was structured and how the decisions were made.

7.1.3 MeLo’s Outsourcing Project

In 2001, MeLo begun a program labelled Effect 25 (E25) after a decision taken by the board of directors (MeLo’s Annual report, 2001). The decision stated that MeLo has to improve the efficiency of the administration by 25 per cent by the end of 2004. The reason as described by the CEO was that:

\[ \text{We (MeLo) must bring our internal cost structure down (MeLo’s Annual Report, 2001).} \]

Therefore a decision was taken that said MeLo needed to:

\[ \text{Begun the comprehensive E25 program, which will raise administrative efficiency by 25 percent. Modern standardized staff, business, and accounting systems, cohesive customer terminology and office planning etc. will be implemented. The program will lead to new methodologies requiring fewer personnel, reducing administrative costs by 1 billion SEK to 3 billion SEK over three years (MeLo’s Annual Report, 2001).} \]

The E25 program aimed at decreasing costs with 25 per cent, which was the reason for why it was labelled E25 (MeLo’s IT manager). In the E25 program there was an initiative labelled EffectIT. This initiative consisted of five more or less independent projects and the outsourcing project that are investigated, described and analysed was one of these five, as shown in Figure 7-6, p. 156. The outsourcing project was not part of the E25 program from the beginning. MeLo’s IT manager describes one reason for why it was adopted to the E25 program and EffectIT in the following way:

\[ \text{At the beginning of E25 the outsourcing project was not a part of that. When the fact that we were supposed to save 25 per cent of the costs for administration were known, and since what was discussed earlier regarding outsourcing was seen as an administrative cost the decision to incorporate the outsourcing project in the E25 program was seen as necessary.} \]
The outsourcing project resulted in a decision (E6) made in June 2003 by MeLo’s board of directors that MeLo should use an external partner for its ICT infrastructure and hosting of software applications. The board of directors had nine meetings 2003 and the issues addressed were as follows: Revision of the vision and mission, engagement of a new CEO, shaping a new business organisation, payment services deficit, enhanced sales and administrative efficiencies, investments, corporate image, illness-related absenteeism, and outsourcing of MeLo’s ICT infrastructure (MeLo’s Annual report, 2003). The decision to outsource was made after an investigation and an outsourcing project that started in March 2002. Before the project started there were a decision taken by MeLo’s executive committee that the project should start (A1). A timeline for the project is shown in Figure 7-7, p. 157. The area under discussion in the project was MeLo’s ICT infrastructure and the components were hosting of operation, data communication, telephony and related helpdesk function to these components. The project was completed in June 2003 after 16 months and it resulted in a signed six years contract with a major provider of ICT. It resulted in a change of employment for 180 employees. It also meant that the ownership of a major part of ICT resources was moved to the external provider. The outsourcing project was as described above one mean of the initiative EffectIT. It aimed at increasing the effectiveness and efficiency of the organization’s ICT, including ICT use, governance, management, and operations (MeLo’s Chief controller). The board of MeLo decided (A2) to launch the EffectIT initiative as one part of the E25 program. MeLo’s Chief controller states that:

Of that billion as the E25 program should save, ICT should contribute with 400 millions and of that outsourcing of ICT infrastructure were supposed to save 25 per cent.

The organisation of EffectIT is depicted in Figure 7-6, p. 156. The strategy for MeLo when the E25 program was launched in 2001 was to focus on its core business and by doing so decreasing its costs. This is described by MeLo’s IT manager who says that:

The ICT strategy in 2002 said that we should outsource. In that strategy hosting our infrastructure was not included.

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7 The labels: A1-A13, B1-B11, C1-C11, D1-D8 and E1-E6 correspond to decisions made and to Table 7-1, p. 178 and Figure 7-7, p. 157.
Figure 7-6 shows how EffectIT was structured and what part the outsourcing project had in this initiative. The structure changed to some extent during the process. At the start of the project the specific steering committee for the outsourcing project did not exist. That committee was implemented first 2003 when the project reached the step, evaluation of tenders. This change and why it happened is described in more detail in Section 7.1.3.3.

The sourcing decision-making process was conducted as a project, labelled Outsourcing project in Figure 7-6. The project consisted of the following five steps: 1) request for information and invitation of tender, 2) tender invitation, 3) evaluation of tenders, 4) agreement proposals and due diligence, and 5) negotiation (Final report outsourcing). The steps were not fully decided (A2) on before the start of the project. MeLo’s IT manager describes it in the following way:

*The different steps were decided on during the way for the project, some were probably decided on beforehand while others were decided on or maybe more correct they were just a fact of the project.*

The timeline shown in Figure 7-7, p. 157 is the final results from the finalised project and not the estimated timeline at the start of the project.
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Figure 7-7 A timeline for the outsourcing project (Final report outsourcing)

Before the project started there was a decision (A3) that the project should start. This is described in the final report in the following way:

*The board of directors has earlier made a strategic decision that MeLo should focus on its core business. This means a continuously examination of different parts of MeLo’s activities. One way too fulfil the strategic decision is to investigate if certain activities can be delivered from an external provider without any lower quality (Final report outsourcing).*

MeLo’s Chief controller describes it in the following way:

*At the beginning it was an extensive focus on what it is that are core business for MeLo and in the ICT strategy that were taken in 2000 it was said that we should outsource work tasks that are strategic ICT. But, when it became evident that ICT costs a lot of money the focus changed from being a strategic focus on core business to become a focus on cost savings, which were the focus at the end of the project.*

This is supported by statements from MeLo’s IT manager who says:

*In the ICT strategy from 2002 it was said that we should outsource the ICT infrastructure.*

In retrospective the decision to start the outsourcing project is described as made in a rush and it is stated in the final report that there was no directive for the project and the invitation of tender was supposed to be delivered already after three months, which means that the time and complexity were heavily underestimated when planning the project. In the report this is described in the following way:
Steering committee, project leaders and some of the used consultant all underestimated the scope, demand and complexity of this type of project, which resulted in that the time plan as well as the amount of resources used exceeds the original plan (Final report outsourcing).

It was decided (A4) that the project should be a part of EffectIT under the E25 program and that it should have the same steering committee. It was also decided that EffectIT’s project leader should have the overall control over the project. The planning for the project was made in one week, which meant that knowledge from the first outsourcing process was not considered. The project leader for the outsourcing project was not in place during the first month, which meant that the project was managed by the assistant project leader in the first month, who also made the main part of the project plan and budget. There was also another project made just before which were used as a pre-study for this project, despite the fact that it did not fully deal with the same area (Final report outsourcing). In the final report it is stated that:

The project did not have a careful and well-planned plan and the project group were not the best for the task.

The reason for that was that:

The time scheduled for starting the project did not allow a selective recruitment of the project group. Resulting in that the project group was inherited from an earlier project (Final report outsourcing).

In the first plan for the project the goal was to have a signed contract the same year, after nine months, with a project team of 12 people. This meant that the project did not have a very good start and it was more or less restarted when the ordinary project leader was back in duty. It also resulted in that the project never got any real directives and no project plan that it could follow fully.

Before describing in more detail the reasons for why the sourcing decision was started, the decision-making process and how it was done is described by using the five steps: Request for information and development of invitation of tender, tender invitation, evaluation of tenders, due diligence and agreement proposals and negotiation, which come from the final report outsourcing, as headings.

7.1.3.1 Request for Information and Development of Invitation of Tender

The request for information and development of invitation of tender step consisted of three main activities: 1) Producing the request for information, distribution of the request of information and evaluation of the received
information, 2) producing a business case that described an outsourcing case, and 3) development of the tender invitation. The time this step took was seven months. The original time plan was much shorter and there are different reasons stressed in the final report for why it took longer time. One of the main reasons was the unclear directive for the project and the hasty start. Another reason was that this step was expanded with the request for information activity more or less directly after the project was started (Final report outsourcing).

The organisation of the project is shown in Figure 7-8. There were six groups in which the work was done, and the total amount of employees working with the project was 13 people. This means that in four out of six groups there was only one person working with that specific task.

![Figure 7-8 Project organisation during the request step (Final report outsourcing)](image)

The activity of producing the request for information, distribution and evaluation of the information was not in the project plan from the start. It was suggested (A5) from the assistant project leader for the outsourcing project and EffectIT’s steering committee that it would be wise to have this activity in order to gain knowledge of the outsourcing market. The expected results were to receive knowledge of which providers that could be interested in becoming a provider. It was also expected to receive knowledge about what constellations existing of main providers and sub providers as well as what constellations that could result from MeLo’s outsourcing (Final report outsourcing). The aim was also to have useable information in order to produce a clearer invitation of tender. The result from the request of information did not really fulfil the objectives. The information was not clear enough to be useful in the development of the invitation of tender step. However, it provided that step with questions that were useful. The request for information was distributed (A6) to eleven potential contractors and five potential sub-contractors. This activity guided the decision (A7) which providers the invitation of tender should be distributed to.

Parallel with the request for information activity a business case was developed. The reason for developing a business case was that it would act as a
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foundation for the decision (A8) that was necessary to make in MeLo’s executive committee. The business case was developed based on an analysis of the effects of outsourcing but also how the outsourcing alternative could be formulated. The method used in the analysis was to investigate what actions the organisation needed to take if it should continue with internal handling of its ICT and what actions an external provider probably would take to make ICT more effective. In the business case it was concluded that the actions would probably be the same, but it would differ in the time plan, costs as well as in the effects of the actions. The decisive reason for EffectIT’s steering committee to suggest (A9) outsourcing was that it judged the probability to succeed with decreasing the costs was more likely in the outsourcing case. There was then a decision (A10) in MeLo’s executive committee that the project could continue with purchasing in the sourcing decision-making process of outsourcing.

At the same time as the two above described activities took place, development of tender invitation was done. This activity consisted of collecting facts regarding existing ICT resources. This was more time demanding than calculated. The reason was that an exhaustive picture of existing ICT resources did not exist. To be able to develop this, it was necessary to contact staff within different occupations, such as operational personnel, responsible for different systems, owner of different systems, personnel responsible for services but also personnel responsible for the systems and the owner of the systems at different units. The documentation was in some cases very good but in other cases there was no documentation at all. Why it took more time than planned is described by MeLo’s IT manager in the following way:

One has to be aware of that MeLo has gone from decentralisation to centralisation and forth and back a couple of times which have made that a lot of things have been started on the way and it is quite clear that nobody had the total control over this.

In the investigation it was found that the differences between different applications were high, meaning that every application was unique with a unique demand of service level and management. In this stage of the project it was expressed that the hardest issue to do was to judge the future demands of ICT in the organisation. At this time it was also found out that a lot of employees had negative feelings about outsourcing and did not like the idea of outsourcing. To handle this situation a lot of efforts were made (A11) in the form of, for example, running workshops with the units most negative to
outsourcing. Due to the negative feelings, fulfilment of information demanded from the project was not high-prioritized. And one consequence of the negativity against outsourcing was that information needed for development of the tender invitation was not satisfying and the project became delayed. MeLo’s IT manager describes the situation in the following way:

I think that 99 per cent of humans are negative to changes that they can not influence by them self. In this case that was a fact since somebody else chose a new employer for you and it is somewhat unknown what will happen and why or why not the new employer wants me or not. The fact that the change is forced on you and you do not have the possibility to chose makes that most people hesitate.

This statement to a high extent explains employee’s negativity from a personal point of view. The IT manager also states that:

The longer time one has a possibility to think about what the changes means for me and the more you get to know about the possible new employer the more positive your feelings will be.

This explains to some extent why this step took longer time than planned.

According to the final report, a major objection against outsourcing, coming from departments affected by the change, were that the change would increase difficulties in developing services from these departments. Another objection was that it could affect customer data secrecy negatively. These objections in combination with the strong disapproval among employees at the IT department, where they disliked the idea of changing employers, meant that the project was delayed and a decision (A12) was made to set a new completion date for the project. The sprawling structure that existed in the ICT infrastructure in the organisation was to some extent agreed on in this phase and development of tender invitation clarified some of the problems with the sprawling structure. However, it was hard to know if the requested service was on the right level. A major work was made in finding a model that would describe how the hosting should be done so that the external provider had encouragement for consolidation of resources and at the same time give MeLo high flexibility and a possibility to only pay for the capacity it used. There were some problems in finding a useful model. The model MeLo selected was later found not to be possible to implement. MeLo bought a tool for measuring used capacity on its servers. But, the measuring did not start early enough for
making it possible to use as a base in the invitation of tender. All this resulted in that the invitation of tender became somewhat unclear and raised some misunderstandings. The quality in the invitation for tender was secured by a reference group consisting of the owner of the ICT infrastructure, an IT manager and the employee that had the responsibility for hosting at that time. The final invitation of tender was a document of about 700 pages that was distributed (A7) to six possible providers.

Early in the process the project leader for the outsourcing project as well as the project leader for EffectIT talked about creating the procuring unit that later on would have the responsibility of managing the relationship with the external provider. The reason for making this suggestion was that this unit would then be familiar with the outsourcing deal and it would be easier to implement the new structure of the organisation and the outsourcing deal. Both project leaders wanted the first step to be to appoint one person as responsible for the new unit. The EffectIT steering committee gave the permission (A13) and said that the person should be appointed as soon as possible. However, it took almost seven months before this was done (Final report outsourcing). One reason for why it took that long time is according to MeLo’s IT manager that the business units did not understand what this unit should work with. He describes it in the following way:

It took very long time for the procuring unit to come in place and I do not think that we truly understood the importance of the unit, or more correctly I think we ignored it. The case was also that we did not fully understood what this unit was supposed to do and at the same time the one that were supposed to make the decision (the boss over the IT department) had so many other problems to deal with that despite it was said that it should be a person engaged as the boss over the procuring unit it took long time before anything happened.

He also states:

The case was that we did not have that kind of unit in the first outsourcing and the reason for that was that, that agreement was much simpler since it was more clear agreement in that outsourcing and the scope was much smaller.

These facts are described by MeLo’s IT manager as the reasons why the procuring unit took long time to implement. The time for implementing was
also increased because of the time it took for finding and attracting the right person for the position. However as the IT manager says:

At the end it became a question of who should have the role but the main reason for the delay was that it took long time before we started to search after that person.

During this part of the project there were different opinions whether outsourcing was the way to go or not. The different opinions existed in the steering committee as well as among other stakeholders in MeLo. In the steering committee for EffectIT there were active proponents for outsourcing not wanting to examine possible drawbacks as well as active spokesmen against outsourcing not wanting to admit there could be benefits with outsourcing. This resulted in that the steering of the EffectIT initiative became somewhat strange, since some of the members of the EffectIT steering committee acted in what could be seen as self-interest (Final report outsourcing). MeLo’s IT manager says:

The fact that the different divisions had their own data centres and made their own development, which was an effect of the decentralisation, made it hard to incorporate everything in the deal. The project group wanted to incorporate everything but the divisions outside IT battled against that.

In addition to this, the responsible executives at different units tried to affect the project and wanted to have specific solutions for their own applications. The external consultancy appointed for EffectIT was one of the most active outsourcing spokesmen. This meant that the external consultancy organisation wanted to restrain the obstacles and the drawbacks with outsourcing.

The outsourcing project was as described above part of EffectIT and it was governed by the main project leader group and the EffectIT steering committee. The project leader for EffectIT was at the same time project leader for three other projects and additionally had a work task in the line organisation. This resulted in that the outsourcing project did not get the attention it needed—not even in the steering committee. The EffectIT steering committee only made absolutely necessary decisions and did not have the time to get acquainted with the work in the outsourcing project. The possibility for the project leader of the outsourcing project to inform and have access to people on higher levels in the organisation was thereby limited. The work load in the project was too high given the resources dedicated to the project. This resulted in that the analysis
and reflections did not have the focus it demanded; and the structure of the
tender invitation became too superficial and later on in the project the entire
work had to be done again. Afterwards it was found out that if this structure
had been reflected upon and if it had been changed, it had been possible to use
it as a base for the contract. When the project leader for the outsourcing project
realised this he made the decision (A14) not to change the structure of the
invitation of tender. The reason for not changing was that he judged that if they
did change the structure they should not be able to deliver the invitation of
tender at the decided deadline.

7.1.3.2 Tender Invitation

The next step in the project was tender invitation. This step consisted of three
main activities: 1) construction of a package with additional information for the
invitation of tenders, 2) answering of questions from possible providers, and 3)
planning and preparation for the evaluation of tenders. This step was conducted
during two months. The organisation of the project is shown in Figure 7-9.
Already at the start of this step in the project, it was known that an additional
package of information was needed. The reason for this was that the EffectIT
steering committee made a “late” decision (B1) that two additional systems and
telephony should be part of the request for tenders (Final report outsourcing). It
was also found out that there existed another data centre, and several servers
were located there that ought to be part of the outsourcing project. MeLo’s IT
manager describes this by the following statement:

At the IT department we had no idea of that there existed yet another data
centre were there were several servers that should be part of the
outsourcing project. I do not see this as something strange since the
highly decentralised structure have made that software applications that
from the beginning just was a test has been taken into production and
developed to an application used seriously in the business. That probably
happens in all organisations.

![Figure 7-9 Project organisation during the tender invitation step (Final report outsourcing)](image-url)
In this step there were questions from possible providers after one week. The project group expected to get questions, but the amount of questions was heavily underestimated. During this phase there were 230 questions of different dignity and complexity (Final report outsourcing). According to MeLo’s IT manager had all providers that submitted tenders questions to MeLo. The questions and answers on the questions were treated in the following way:

*We answered all questions and the question and its answer were available for all providers which meant that they all saw the question and its answer. Of course they did not see who had asked the question. The intention was that everybody had the same information (MeLo’s IT manager).*

A lot of the questions were about how many servers, how many applications, what applications that were running at that specific server, and if a specific application could be on the same server as another application. In that way it was a lot of technical questions (MeLo’s IT manager). There were also a lot of questions related to the employees such as what kind of agreements the employees had regarding vacations and pensions and so on.

In some cases it was not possible for the project members to answer the questions without additional information and help from employees at different business units. The business “unit” that was most needed for this was the IT department, who had been negative to the project from the start. However, at this stage the negativity had changed and the IT department was more positive. The problem of answering questions had also got the attention among the EffectIT steering committee and the executives of the IT department, which made that they took some actions (B2) with implementing networks of contacts between the project and involved business units (B3), but also by improving the support for the project. Despite this, the situation was quite chaotic and the project had difficulties in keeping deadlines and providing possible providers with good service so that they could submit tenders with the right content. This made that planning and preparing tender evaluation was seen as an important step. The plan and preparation consisted of creating an organisation that had the necessary competencies and resources for doing high-quality evaluation. The evaluation was planned to take part during one month including presentations done by possible providers. For the evaluation work 45 employees in ten different specialist teams were recruited (B4). The planning part also consisted of developing standards and instructions for evaluation of tenders.
At this time, there were consultants (x-consultants) working in the outsourcing project, shown in Figure 7-8, p. 159. Some stakeholders thought this was not a good arrangement, and based on an initiative this was terminated (B5). The reason for this was that the consultants were employed by a consultancy working with outsourcing. Even though this consultancy was not one of the potential providers, they were competitors with potential providers. This could affect the potential providers in their openness and in their bids. Another reason was that the project group wanted to have openness in the evaluation and did not want to have problems with the tender secrecy. The project was already understaffed and this increased by the termination of x-consultants and it also made that the project lacked assistant project leader, since one of these consultants held the position as assistant project leader. This resulted in that the outsourcing project leader worked more or less with solving acute problems instead of working with long time planning for the project (Final report outsourcing). A “new” consultant (y-consultant) was appointed (B6) to the role as assistant project leader by EffectIT’s project leader without discussing the decision with the project leader for the outsourcing project. At the same time the project leader for the outsourcing project appointed (B7) a colleague (internal consultant) to have the role as assistant project leader, shown in Figure 7-9, p. 164. The collaboration between these two assistant project leaders did not work since their roles and responsibilities were unclear.

At the end of this step the evaluation group was structured, prepared and trained for its work task. A reference group for making the quality assurance of the tender invitation was selected (B8). There were also a decision (B9) made on which providers that should be offered to submit a tender and a date for the final submission of tender was decided on (B10). The project also changed localisation (B11) as it wanted to make sure that it could conduct the next step without risking the secrecy, and the open office that had hosted the project so far was found not to be suitable for the next step.

7.1.3.3 Evaluation of Tenders

The total time for the next step, the evaluation of tenders, was decided (C12) to be two months. The actual time became somewhat less since the time period was during Christmas and New Year. There were four main activities in the step: 1) evaluation of tenders, 2) develop a “short-list”, 3) the start of preparing the contract, and 4) preparation of due diligence. The organisation of the work in the project is shown in Figure 7-10, p. 167. The project organisation differs a
lot from earlier steps in the way that it now contains more working groups. The amount of people working in the project also increased a lot and there were 45 employees and 6 consultants working in the project (Final report outsourcing). The administration thereby increased a lot and the project leader had a project administrator helping out with the administration. The evaluation of tenders was a big and heavy work that needed to have high engagement from a lot of employees (MeLo’s IT manager).

Figure 7-10 Project organisation during evaluation of tender step (Final report outsourcing)

The evaluation of tenders was made during the first four weeks and it was finalised on time. This activity was made in a sequential way. Starting with that the individuals in each team read the tenders and formed opinions of the tenders. The tenders were then analysed and reviewed in the teams, and questions were prepared for each potential provider. The next stage was a day long presentation by each of the potential providers (C1). The final stage of this activity was to make an updated analysis and a judgement with a motivation for why the teams evaluated as they did. The result from the evaluation activity was put together and analysed in a smaller group. What they did was to bring together the results from the ten different evaluation teams and analyse the results from these teams.

The role of this group was to develop a short-list and recommend which provider should be on the short-list. At this stage in the project there were six potential providers. Two of these could be dismissed (C2) easily because they did not fulfil several of the demanded criteria. To become a provider the following criteria, according to MeLo’s IT manager, were necessary to fulfil:

The provider needed to be well known on the outsourcing market, have great experience of outsourcing and good customer references.
Deciding on Sourcing Option for Hosting of Software Applications

MeLo’s Chief controller says:

An important criterion for the potential provider was that they needed to be located in Sweden and this was extremely important for the owners. If not, we had probably ended up with some personnel problem.

The IT manager describes this in the following way:

The question of employment was extremely important. The reason for that was that if we did not have the employees on our side the outsourcing project had been dead from the very beginning. This was an experience we had from the first outsourcing.

Related to that, the IT manager says that there was one criterion that was more or less a main criterion and that was:

The provider had to guarantee that they should employ the employees that were affected by the deal. And they had to guarantee employment for a certain time after the transferring, and MeLo is the one that has longest time for employment after the transferring when comparing with other outsourcing deals in Sweden. This criterion was not possible to negotiate about.

MeLo’s IT manager also says that:

It is important to remember that the reasons for why employees are transferred are both delivery arguments as well as economical arguments. It is important that the employees trust the provider since they have the possibility to say yes or no to have the provider as an employer, and if they had said no, MeLo had have problem.

In addition to these criteria there were also according to the IT manager questions of market shares and how strong the provider was financial. MeLo’s Chief controller also says that:

It was also a question of who the owner was and what culture that existed at the potential provider organisation. The idea was that MeLo’s culture and the providers’ culture should be able to combine.

These criteria acted as the base for selecting providers on the short-list. The goal was to have two providers on the short-list. More information from the providers was needed (C3) to do that. To fulfil the need, additional information was requested and some meetings with the providers were held. The evaluation was complicated because the providers had different strengths and weaknesses.
which made it hard to compare different providers. But the main reason for the difficulties in comparing them was that the different providers had misunderstood or had interpreted the invitation differently. This was most apparent when it came to different meanings of hosting. This made it hard to compare tenders regarding costs as well as how the different providers planned to execute the services in the future.

There were two providers that were dismissed at this stage; both were dismissed because of their weak economic and financial status. One of the providers also had a size that if they should be a provider to MeLo, MeLo’s part of the provider’s total turnover should have been approximately 80 per cent. This was seen as too risky. MeLo’s IT manager says that:

*I think the dismissal of this provider was pity, since that provider seemed to be an interesting partner and the culture of that provider suited MeLo nicely. But, at that time the provider had just started its business in Sweden so they were too small.*

The result of this work was that a short-list with two providers (C4) where presented. The EffectIT steering committee then decided (C5) that the work should continue with these two. This meant that the due diligence could start.

At the same time the preparation of the contract started. There was a decision (C6) made stating that MeLo should present its proposal for contract and that this proposal (C7) should guide the negotiation. During the time for the development of the contract proposal it was realised that there was a need for a clearer description of what the hosting part consisted of. It was also found that there was an unclear description of what services that was demanded. The contract proposal also needed to be developed so that it was juridical grounded. All this resulted in that the proposal for contract (C8) became a whole new document with a new structure and partly a new content. Despite that there was still a high level of insecurity regarding what MeLo needed and demanded in the future (Final report outsourcing).

Already in the phase of invitation of tender, the due diligence had started. At this stage this was intensified and focused on showing all material that the providers needed to be familiar with to have a good picture of the “reality”. This was a hard task because information and documents were spread over the entire organisation, and it was hard to know where needed information and documentation could be found.
At this point the project got an own steering committee (C9) as shown in Figure 7-6, p. 156. But, it was still part of the EffectIT project. For the project leader in the outsourcing project it was strengthening and resulted in greater attention and support as well as the possibility to make decisions faster. The new steering committee was put together (C10) to give support and to take decisions without long preparation time. This committee meet once a week (C11) as long as there was a need. A new assistant project leader was also appointed (C12). This time the project leader for the outsourcing project made the decision himself. This resulted in that the collaboration between the project leader (Z-consult in Figure 7-11) and the assistant project leader in the outsourcing project worked very well.

7.1.3.4 Due Diligence and Agreement Proposals

The next step in the project, the due diligence and agreement proposals took two months. This step consisted of two activities: 1) to conduct a due diligence with the two remaining potential providers on the short-list, and 2) to create the proposal of agreement. The organisation of the project is shown in Figure 7-11. The working groups decreased a lot from the earlier step and consisted during this step of only four teams. The focus of the work was on the interaction with the forthcoming provider.

![Figure 7-11 Project organisation during the due diligence and agreement proposal step (Final report outsourcing)](image)

Conducting due diligence meant that potential providers were given full access to all necessary information. They got access to a room with computer facilities and all necessary information and documentation, including inventory, agreements, contracts, and descriptions over systems. The providers also had the possibility to visit all existing data centres and to interview employees. The due diligence resulted in more questions from providers which the project and the business units tried to answer. The ambition was to have full openness (D1) during this stage. The only information not available for the providers was the list of employees that were supposed to change employer, and some telephony
and data communication agreements. The latter were classified as sensitive information (D2).

The work with developing the agreement proposal continued and it was found that the content of the agreement did not become such a hard task as expected. However, the great amount of information that were supposed to be dealt with in the proposal made that it was time consuming and demanded a lot of resources. There were one exception regarding difficulties with the content and that was the information that dealt with hosting of software applications. This part of the proposal was especially hard because it was found that the original description was not good enough. There was an appendix constructed that aimed at solving this, but there still existed some uncertainty if this was the most ideal description and if the proposed model for fee payment was the best solution. MeLo wanted to have a model (D3) for the fee and the services that reflected what was considered “normal” in a competitive market. The project did not find any suitable model for hosting of software applications. The proposal also needed to stand on legal grounds which made that there were quite a lot of reformulating and rewriting before it was found legally correct.

The work during this step was high intensive but well structured and well managed. To develop a proposal that both the ones who worked with the proposal as well as those who later on would work with the negotiation agreed on took longer time than expected. There was some uncertainty if the quality of the presented proposal was good enough (D4) for presenting to potential providers. Another option instead of developing an own proposal could be to use the proposal that the provider had delivered. However, this was early in the process seen as not actual (D5). The work with agreeing on the proposal was not in the plan from the beginning. In the original project plan nobody had thought about this. At this point in the project this was seen as an important activity necessary to conduct since it was not the same parties that developed the proposal that used the proposal in the negotiation.

During this step the person that should have the role of responsibility in the procuring organisation were recruited (D6). The recruitment of employees for the procuring organisation started also during this step (D7). The step then ended with the distribution (D8) of proposals to the two remaining potential providers.
7.1.3.5 Negotiation

The next step in the outsourcing project was the negotiation with the providers. The step consisted of the following three main activities: 1) negotiation preparation, 2) final negotiation, and 3) the delivery from the project organisation to the procuring unit. The time for this step was three months. The project organisation is shown in Figure 7-12, and is fairly the same as the step before.

![Project organisation diagram](image)

Figure 7-12 Project organisation during the negotiation step (Final report outsourcing)

After the distribution of the proposal of agreement to the two providers, they had the opportunity to prepare for the final negotiation by getting more familiar (E1) with the proposal and to ask questions and make comments. They were expected to state the price (E2) of demanded services. They were also expected to carefully tell which parts of the proposal they did not accept and what parts they wanted to negotiate. The parts that were not commented on were supposed to be accepted. The providers then returned answers on the proposals with comments on the parts that they wanted to discuss. The comments and the demanded price for the services gave a good overview of the two providers and their different positions before the final negotiation. After one month of preparation for negotiation EffectIT’s steering committee decided (E3) to give the project the right to start the final negotiation with the two providers. The negotiation took place at an external law firm. The group (E4) that negotiated consisted of the purchasing executive of IT, two purchasers, an internal lawyer, two external lawyers and one person from the IT department. The group was lead by the purchasing executive of IT. In addition to these people the group was supported by employees that had expertise knowledge regarding the area that were discussed at the moment. The final decision (E5) was made a week before the contract was signed, and the provider who was chosen was chosen based on the outcome of the negotiation. The chosen provider was the same provider as deliver the services in the first outsourcing. According to the IT manager, the reason for choosing this provider was not that it already was a provider. He describes the decision in the following way:
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The provider that was chosen had the lowest fee for the services we demanded and this made that we did not have the problematic issue, that we would have if the other one had been cheaper. If that had been the case it had been interesting to see how the decision had turned out.

The IT manager at MeLo also states:

The fact that the chosen provider already had some parts of our ICT and the relationship with that provider works very well probably had made it harder for another provider to have the contract, but since that question never become the case I can not say what the outcome would have been.

The outsourcing project ended with the decision (E6) made by MeLo’s board of directors that the suggested provider should have the contract. This decision was fulfilled by MeLo’s CEO, who signed the contract. This action then resulted in that the work with implementing the decision started. The contract was signed in June 2003 and the “new” organisation was then implemented in September 2003.

After the contract was signed, the documentation regarding transferring of employees and ICT resources was polished, and a project that was supposed to handle the transfer was constructed. The procuring unit that was aimed to be started already in the first step in the outsourcing project was finally finalised and started to do its work. The time between the signed contract and the time for when the employees changed employer was also used for making sure that the procuring organisation became familiar with the signed contract. From that group there were some objections about the agreement, namely about the level of services that were supposed to be delivered. But, it was too late to make any adjustments at this stage. The most difficult issue at this point was to transfer as much information about the agreement as possible from the project to the procuring unit. This was somewhat problematic and the reason for that is described by MeLo’s IT manager, who states that:

Outsourcing providers and especially the provider that were chosen has experience with implementing the “new” organisation. But, we did not have that, so we suffered from that the procuring organisation not were in place earlier.
According to the IT manager this resulted in that:

*The organisational unit that should handle the relationship with the supplier had a hard time to be acquainted with the contract and it took at least half a year before the outsourcing worked as it were supposed to do.*

However, this is a bit contradictory with the information from MeLo’s chief controller, who states that:

*The second outsourcing contract was successful from the start and we saw that we saved money from day one in that contract.*

This indicates that success is defined differently between MeLo’s IT manager and MeLo’s Chief controller. The Chief controller defines success by looking at the cost of the service while the IT manager more looks into the quality of delivered service.

In the next section MeLo’s sourcing decision-making process is summarised.

### 7.1.4 Summing up MeLo’s Outsourcing Project

MeLo is an organisation that has gone through quite a lot of big changes regarding its structure between the years 2000 to 2003. One of these changes was the outsourcing project that has been described in the text above. This project resulted in a signed contract with a major outsourcing provider. The contract has a run time for six years and meant that 180 employees changed employment. The project started in March 2002 and was finalised in June 2003.

This section will summarise the outsourcing project by first giving a summary of why the project was started, it then gives a summary of how the decision-making process was conducted and finally it ends with giving a summary of reasons for the outcome of the decision-making process.

#### 7.1.4.1 Why MeLo Started the Outsourcing Project

In the annual report from 2004 it is stated that MeLo should:

*Extract the effects of approved ICT cutbacks in a move to create efficient and reliable processes. In 2004 MeLo extracted the earnings effects of outsourcing, and began the implementation of company-wide methods and procedures. The goal is to improve the efficiency of the ICT operation.*

MeLo’s mission, vision, and the above statements indicate that ICT is seen as critical for the performance and the competitiveness by decision-makers in
MeLo. But the organisational structure and the lack of staff who work with ICT in the executive committee made that questions regarding ICT did not get the right attention. This lack of attention resulted according to the Chief controller in the following situation:

The situation was that we (MeLo) had an extensive portfolio of applications, probably at least 300, and an inflated structure that was a result of an organisation with several subsidiaries and strong departments which drove its own developing independent.

MeLo’s IT manager states that:

The mess that existed was a result of the decentralised structure and that the different parties of the organisation walked their own way.

Another reason for the extensive portfolio of applications was described by MeLo’s Chief controller in the following way:

MeLo experienced the ICT boom at the end of the 1990s. It was an extensive concentration in development of ICT. From that followed that cost increased from 1750 millions SEK to 2000 millions SEK and that was 9.2 per cent of MeLo’s net sales. This was an effect of enormous investments and at the time for these investments nobody had the time for doing necessary analysis. It was time to market that were in focus and time was more important than quality and time was more important than cost.

This was the situation before the decision of starting the second outsourcing project was taken. At that time the governance of ICT was weak and this was most probably an effect of the organisational structure.

The outsourcing project therefore when seeing it in retrospective is more or less described as an attempt of decreasing costs. However, as both the Chief controller and the IT manager describes it the intention was from the beginning to focus on MeLo’ core business. The Chief controller says:

Today it is probably only I (MeLo’s Chief controller) and the IT manager (MeLo’s IT manager) who has been involved in the project from the beginning that knows that the project from the beginning was a strategic decision, most would today say that it was decision made strictly for economical reasons. But, the start of the outsourcing project was to a high extent that MeLo should focus on its core business.
MeLo’s IT manager argues that this could be understood as a bit contradictory since ICT plays an important role in MeLo’s core business. He explains it in the following way:

*That ICT is of importance for MeLo’s core business is without doubt but you do not have to run it by yourself.*

What he states is that ICT is of importance for MeLo’s core business but who it is who manages the hosting is of secondary role. The Chief controller describes it in the following way:

*Despite the fact that we are one of Sweden’s largest trucking company we do not build our trucks neither do we have our own workshop for trucks.*

In the final report it is stated that:

*Since ICT not is a core business for MeLo we can not keep the high level that are needed regarding both deep and extent as a provider with focus on ICT can do (Final report outsourcing).*

Another reason suggested in the final report for why outsourcing is the way to go is as follows:

*To be able to use competence in a more flexible way for instance during periods with low demand or temporarily when a specific competence is needed is one of the advantages with outsourcing (Final report outsourcing).*

MeLo’s ICT strategy also gives support for outsourcing since it states that:

*MeLo should focus on strategic areas where MeLo can be a market leader, increase its ability to react fast, increase the possibility to have access to high competence, and on the long-term have a lower level of its ICT costs.*

This is also said by MeLo’s IT manager, who describes it in the following way:

*One of the foundations for the start of the decision process was that hosting of software applications is not a core business for MeLo and that is true. However, development and maintenance are closer to the business. At the time for the start of this process all providers said that they could decrease the costs by 30 per cent, without really saying how they would do that. And what executives would not save 30 per cent? That was a rather nice advertisement.*
However, MeLo’s Chief controller states that:

*At the end of the project we found that the savings had been possible to make by ourselves. What we found was that the effects that we expected to have from the outsourcing had been possible to earn by becoming more effective in our own organisation. But, it would have taken longer time and the time factor was seen as important. It was also a question of trust since if we could do it by ourselves, why had we not done it, so the executive management was doubtful if it was possible to do internally.*

MeLo’s IT manager also describes this when he states:

*When you have an external partner as provider you have some rules to follow and it is harder to follow these rules when you do it internal in the same organisation, for instance if somebody needs a new server it has to follow a before-hand decided way when you have an external provider, and it becomes clear what it will cost. If you do it internal in the organisation it happens that the server is bought and installed without anyone thinking specifically about the cost that follows from that decision.*

### 7.1.4.2 How the Decision-Making Process were Made

The sourcing decision-making process in MeLo took 14 months. It consisted of a lot of decisions made by different decision-makers. The main decisions are shown in Table 7-1. This table describes the decisions identified in the description delivered in Section 7.1.3. The labels (A-E) of the decisions relates to the five steps in the project as shown in Figure 7-7, p. 157.
### Table 7-1 Decisions made in MeLo’s outsourcing project

#### Request for Information and Invitation of Tender

<table>
<thead>
<tr>
<th>Label</th>
<th>What was the decision about?</th>
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<tbody>
<tr>
<td>A1</td>
<td>Deciding on the start of the sourcing decision project</td>
</tr>
<tr>
<td>A2</td>
<td>Decision on the project plan and steps in the project</td>
</tr>
<tr>
<td>A3</td>
<td>Strategic decision that MeLo should focus on its core business</td>
</tr>
<tr>
<td>A4</td>
<td>Decision that the outsourcing project should be part of EffectIT and E25</td>
</tr>
<tr>
<td>A5</td>
<td>Increase the outsourcing project with the request for information (RFI) activity</td>
</tr>
<tr>
<td>A6</td>
<td>Decision on which “potential” providers that should have the RFI</td>
</tr>
<tr>
<td>A7</td>
<td>Decision on which provider that invitation of tender should be distributed to</td>
</tr>
<tr>
<td>A8</td>
<td>Deciding that a business case was necessary to have as a foundation for the decision that was needed to make in MeLo’s executive committee</td>
</tr>
<tr>
<td>A9</td>
<td>Suggest outsourcing as the way to organise MeLo’s ICT in the future</td>
</tr>
<tr>
<td>A10</td>
<td>Deciding that the project could continue with the decision-making process, and thereby start the purchasing phase</td>
</tr>
<tr>
<td>A11</td>
<td>Decision on running workshops aiming at change the negative feelings about outsourcing among employees</td>
</tr>
<tr>
<td>A12</td>
<td>New date for completion of the project</td>
</tr>
<tr>
<td>A13</td>
<td>Permission of recruiting a person responsible for the procuring unit</td>
</tr>
<tr>
<td>A14</td>
<td>Deciding on keeping the “old” structure of the invitation of tender</td>
</tr>
</tbody>
</table>

#### Tender Invitation

<table>
<thead>
<tr>
<th>Label</th>
<th>What was the decision about?</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>Deciding that the scope of the project should increase</td>
</tr>
<tr>
<td>B2</td>
<td>Deciding on implementing networks of contacts between the project and the business units</td>
</tr>
<tr>
<td>B3</td>
<td>Deciding on which units that are involved in the sourcing project</td>
</tr>
<tr>
<td>B4</td>
<td>Deciding on resources (number of personnel and teams) for the evaluation work</td>
</tr>
<tr>
<td>B5</td>
<td>Deciding on termination of usage of x-consultants in the project</td>
</tr>
<tr>
<td>B6</td>
<td>Deciding on a new consultant (y-consultant) as assistant project leader</td>
</tr>
<tr>
<td>B7</td>
<td>Deciding on recruiting a colleague (Internal “consultant”) as assistant project leader</td>
</tr>
<tr>
<td>B8</td>
<td>Deciding on using a reference group and the composition of this group for quality assurance of tender invitation</td>
</tr>
<tr>
<td>B9</td>
<td>Deciding on which provider that tender invitation should be submitted to</td>
</tr>
<tr>
<td>B10</td>
<td>Deciding the day for final submission of tenders</td>
</tr>
<tr>
<td>B11</td>
<td>Decision on a change of localization for the project</td>
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</table>
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#### Evaluation of Tenders

<table>
<thead>
<tr>
<th>Label</th>
<th>What was the decision about?</th>
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<tbody>
<tr>
<td>C1</td>
<td>Decision on which providers that should have the possibility to present themselves</td>
</tr>
<tr>
<td>C2</td>
<td>Deciding on dismissal of two of the providers (going from six to four)</td>
</tr>
<tr>
<td>C3</td>
<td>A decision that more information was needed to be able to come up with a list of two providers</td>
</tr>
<tr>
<td>C4</td>
<td>Deciding on a short-list with two providers</td>
</tr>
<tr>
<td>C5</td>
<td>Decision on that the work should continue with the two providers at the short-list</td>
</tr>
<tr>
<td>C6</td>
<td>Deciding that MeLo should present its proposal for contract</td>
</tr>
<tr>
<td>C7</td>
<td>Deciding that the presented proposal should guide the negotiation</td>
</tr>
<tr>
<td>C8</td>
<td>Deciding that the project should be a whole new document</td>
</tr>
<tr>
<td>C9</td>
<td>Deciding that the project should have an own steering committee</td>
</tr>
<tr>
<td>C10</td>
<td>Deciding on the constellation of the new steering committee</td>
</tr>
<tr>
<td>C11</td>
<td>A decision that the steering committee for the outsourcing project should meet once a week</td>
</tr>
<tr>
<td>C12</td>
<td>Deciding on appointment of a new assistant project leader</td>
</tr>
<tr>
<td>C13</td>
<td>Decision on the time necessary to make the evaluation of tenders</td>
</tr>
</tbody>
</table>

#### Due Diligence and Agreement Proposals

<table>
<thead>
<tr>
<th>Label</th>
<th>What was the decision about?</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>Deciding on full openness during due diligence</td>
</tr>
<tr>
<td>D2</td>
<td>Deciding on some restrictions on the “full openness” for instance, list of employees supposed to change employment</td>
</tr>
<tr>
<td>D3</td>
<td>Deciding on an investigation and suggestion of a model for fee payment that were considered as “normal” on the market</td>
</tr>
<tr>
<td>D4</td>
<td>Deciding on that the quality of the proposal was good enough</td>
</tr>
<tr>
<td>D5</td>
<td>Deciding on usage of the internal proposal instead of using the proposals delivered from the providers</td>
</tr>
<tr>
<td>D6</td>
<td>Decision on who the responsible for the procuring organisation should be</td>
</tr>
<tr>
<td>D7</td>
<td>Deciding that recruitment of personnel for the procuring organisation should come in action</td>
</tr>
<tr>
<td>D8</td>
<td>Deciding that distribution of proposal agreement should be done</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Negotiation</th>
<th>What was the decision about?</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>Decision on giving potential providers the ability to become familiar with the proposal</td>
</tr>
<tr>
<td>E2</td>
<td>Decision that the provider should state a price for demanded services</td>
</tr>
<tr>
<td>E3</td>
<td>Deciding that the outsourcing project should have the rights to start the final negotiation</td>
</tr>
<tr>
<td>E4</td>
<td>Decision on the composition of the final negotiation group</td>
</tr>
<tr>
<td>E5</td>
<td>Final decision on which provider to sign a contract with</td>
</tr>
<tr>
<td>E6</td>
<td>Deciding that MeLo should use an external provider for provision of its ICT infrastructure and hosting of software applications and that the CEO could sign the contract</td>
</tr>
</tbody>
</table>

The executive committee and the board of directors made the following decision during the time for the project: (A1) the executive committee decided that MeLo should start the sourcing decision project; this decision was influenced by the decision (A3) by MeLo’s board of directors that MeLo should focus on its core business. The board also made the decision (A10) to start the purchasing part in June 2002. In March 2003 the board of directors made the decision to give the CEO the right of signing an outsourcing deal. In June 2003, the executive committee made the decision (E6) about choosing the proposed provider and made an approval of the proposed contract.

In the final report that evaluated the outsourcing project the following is described:

*The steering committee, the project leader group and some of the consultant used all underestimated the complexity and the size of the project which have lead to that both the time schedule as well as the resource usage have been exceeded.*

Despite that the report also states that:

*The final agreement with the provider holds high quality both when it comes to the content as well as the possibility for MeLo to receive the effects that was the intention.*

During the whole project there were attempts to try to update the entire organisation about the project, for example, there were a question and answer (Q&A) site on the intranet. There were also one person appointed to be the linkage between the project and human resource questions. The questions that were supposed to be answered were about rules and rights regarding
employment. The process and how it was done was to a great extent impacted by a need for information and a need to share information among different stakeholders in the process. This is described by MeLo’s IT manager in the following way:

> Information and information sharing is a very difficult question. In an outsourcing process this is especially hard since you have to think about what information that you can share and what information that you preferable not should share. From the employees point of view it would have decreased their uncertainty to a great extent if you could say who the provider would be. But, you can not do that before the final decision of provider is made.

### 7.1.4.3 Result of the Sourcing Decision

The signed contract was an outsourcing contract with the runtime of six years. It was decided that 180 employees should be transferred from MeLo to the provider. There are possibilities to break the contract if delivered services are not fulfilling the contract. The contract is a document that consists of around 800 pages. This document was an entirely new document, since it was found out just before the time for signing the contract that the earlier version that had been produced during the project was not good enough. The reason was mainly that the information had been misleading and that there was information missing about what services MeLo wanted and needed. After the contract was signed the implementation of the new organisation started and it can be said that there were some problems. These problems resulted in that the organisation started to implement information technology infrastructure library (ITIL).

In the outsourcing project other options regarding hosting were never really discussed. However, before the start of the project it was discussed whether the hosting should be kept internal or if it should be outsourced. The history of the organisation was that some parts were already outsourced and other parts were managed internal. One reason for starting the process aiming at outsourcing was the IT strategy which argued for a test of outsourcing. However, the main reason put forward at the end of the project and after the decision made is that the decrease of cost that was demanded would be hard to have if the ICT function would be kept internal.
But, as described by MeLo’s Chief controller:

At the end of the process we could establish that the savings we were supposed to do by outsourcing could we achieve by our self. But, it would take some more time and the time factor was seen as very important. And then it was questioned if this was doable why had we not made it before which resulted in a question of trust from the management perspective.

In the final report it is stated that:

An important aspect to mention is that MeLo does not choose to outsource because of poor result or poor quality from internal delivery instead it is the cost perspective that makes MeLo to outsource (Final report Outsourcing).

According to MeLo’s IT manager the decision taken:

Started with a focus on core business and then it changed and become more and more focused on cost savings.

This is also supported by MeLo’s Chief controller that says:

It was expected that the decision should fulfil some criteria and if it did so the decision to take should be presented for the CEO and one of these criteria was that MeLo should save 110 million SEK each year every year over the contract period and that was the main criteria. So, if that not had been expected outsourcing had never been suggested as the way to go, which means that had we not been able to show that the outsourcing had never been done.

The description over MeLo’s outsourcing project shows that different factors influence the process in different ways and in different times in a sourcing decision-making process. The factors that the description suggests are as follows: Control, costs, core competence, capability and strategy. How and in what way the factors influence and impact will be further analysed in Chapter 8. But, first the municipality and the municipality’s sourcing decision-making process will be described.
7.2 Jönköping Kommun (the Municipality) and its Sourcing Decision

The organisation described in this section is Jönköping Kommun, which is a Swedish local government, hereafter labelled the municipality. The municipality has approximately 10,000 employees and a turnover of 7 Billion SEK (The municipality’s Annual report, 2004). The vision of the municipality is expressed in the following way:

For the municipality it is important to follow the development both on the national level as well as on the international level. The readiness for action increases by being aware of trends and values on an early stage (The municipality’s Annual report, 2004).

During the years 1999-2000 the municipality worked with a project that aimed at an analysis of the municipality’s environment. The analysis ended up with a target document that was taken by a unanimous municipal council in June 2000. This document is then the municipality’s vision for development stretching to 2010, and is described as follows:

It is the municipality’s vision for development to 2010 and it consists of a coordinated and strengthened concentration within four profile areas were the municipality should be in the fore front. The four areas are:

- **The city – the Centre of the district.** The city should be the attractive city that goes in the fore front of the entire districts evolution.

- **Centre for communication, trade and meetings in the middle of Sweden’s districts.** The municipality should 2010 be Sweden’s and the district’s hub – a communication centre with environmental profile.

- **Competence, development and entrepreneurship.** The city should 2010 be Sweden’s entrepreneurship centre full of ideas and the enlighten municipality with distinction.

- **Culture and experience.** The city should 2010 be the city of lights with experiences in all areas (The municipality’s Annual report, 2004).

The Chairman of the municipal council describes the evolution of the municipality in the following way:

The municipality has during many years had a positive evolution. We have become more inhabitants in the municipality and the evolution of the
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job market has been positive compared to many other municipalities. However, the municipality’s economic situation has under a couple of years been problematic. The economic situation has caused a decreased budget and savings for a couple of years resulting in some problems in the municipality’s business (The municipality’s Annual report, 2004).

The Chairman says that the result the municipality shows in 2004 is a change of the trend. Despite that he says that the municipality has to save and he describes the economic situation in the following way:

The municipality’s economic situation does not have the capacity to deal with unexpected changes in the costs (The municipality’s Annual report, 2004).

This statement and the vision describe the municipality as a municipality that grows and develops in a fruitful way, but it does so with a somewhat problematic economic situation. Another problematic issue in the municipality is the demographic situation, shown in Figure 7-13.

![Figure 7-13 Distribution of employees in age category (Report Coordination of ICT, 2004)](image)

The demographic situation describes two future problems for the municipality. The first is that the demand of services in health care and elderly care will increase in the future. The second is that the municipality has to prepare for employment of quite a lot of new people. It is stated that this will demand good support and good tools for handling the huge amount of new employees
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(Report Coordination of ICT, 2004). According to the municipality’s CIO this demands that software applications that support the municipality’s processes need to be developed. He describes it in the following way:

We will need to be more effective in our processes and arrange so that the municipality can give good services in the future. In the municipality 43 per cent of the employees will retire within ten years. This means that we have to use ICT and be much more effective with the help of software applications and we can not do that with the structure we have on ICT today.

This statement is connected to a third future challenge described in the report coordination of ICT (2004) and that is the need for developing the municipality’s e-government services. The report states that:

A change to e-government services demands investments in software applications and equipment to handle the requirements. It also demands that commonly processes are developed which goes over the offices borderline. It is a benefit if these investments are made as joint investments in the municipality. It will also demand that citizens are given support to be able to use the services that are provided (Report Coordination of ICT, 2004).

The municipality’s CIO states that:

To be able to coordinate software applications you have to coordinate hosting of software applications and the trend at the moment is to coordinate and consolidate to have a standard for developing 24/7 services.

To describe the municipality further, and to give a more extensive background for its sourcing decision-making process that were conducted between March 2002 and November 2004, the next section will start with describing the structure of the municipality.

7.2.1 The Municipality’s Structure

The municipality is a political driven organisation and as such it has a political structure. Political organisations such as a municipality also have to have an administrative structure. The organisational chart, shown in Figure 7-14, p. 187 describes both the political structure as well as the administrative structure. The administrative structure follows the political structure to a great extent. The
only exception from that is the urban office, notice Figure 7-15, p. 189, which also has overall responsibility for the 16 business driven subsidiaries that are mostly fully owned by the municipality. The organisational chart, Figure 7-14, p. 187 describes the formal way of decision-making in the municipality. At the highest hierarchical level are the municipal council and this council consist of 81 politicians elected on a four years basis. The council makes decisions and give directives to the municipal executive board. The municipal executive board consist of 15 elected politicians. In addition to these 15, the five commissioners and representatives from the urban office are members of the municipal executive board. In the municipality there are different ways to initiate a decision and/or a directive. The directives can come in the form of propositions from a single politician including the municipal commissioners, groups of politicians, from the municipal executive steering committee or from anyone of the different offices. If the directives come from an office it could be a single civil servant that makes a suggestion of some change. If the directives or the decision starts from an employee at any of the offices the continuing, according to the CEO at the urban office, most probably is suggested by the managing director at that office.

The managing director then suggests to either the CEO at the urban office or some of the municipal commissioners or to someone in the political committee connected to that office that this is something the municipality should investigate further. This indicates that there are more or less two different starting points for decisions in the municipality and these are either from politicians or from employees. These starting points could be seen as either top-down or bottom-up. The formal way is that directives come as described above from the municipal council but it also come directives from the municipal executive steering committee. As described in Figure 7-14, p. 187 the municipal executive steering committee consists of the five municipal commissioners and the chairman of the municipal executive board in addition to the commissioners. The municipal executive board has delegated some decision-rights to the municipal executive steering committee in the area of: Trade and industry, tourism and information (The municipality’s budget, 2004).
The municipality can be described as consisting of a political arena without great conflicts. The political power has been and is a coalition\(^8\) between the Social Democrats and the Centre Party. This coalition has a great position in the community and has been seen as successful in the management of the municipality. The opposition parties have of course been of different opinions several times but the coalition has been successfully managed by especially one of the five municipal commissioners. The municipality has five full time municipal commissioners, and the organisation of work tasks for these reflects the ideology of the municipality. The five municipal commissioners have different areas within each of them are supposed to be more engaged in. The responsibilities are divided into three areas, A1 – A3, as shown in Figure 7-14, where each one of the three municipal commissioners in the coalition has the overall responsibility to one of these areas. The two municipal commissioners in the opposition have one area each (area 1 and area 2) that they are supposed

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\(^8\) This changed to some extent in the election September 2006. The change does not affect the sourcing-decision making process described in the thesis.
to have the oppositional responsibilities about and one area (area 3) that they share the responsibilities of. Also this reflects the ideology of the municipality. The basic ideology of both the political organisation and the administrative organisation is to decentralise as much as possible.

The areas and which offices that belong to each area are shown in Figure 7-14, p. 187. In the municipality’s budget (2004) the areas and respectively questions the areas are responsible for are described in the following way. **Area 1** concerns the following questions: Overall management, planning, coordination, budgeting, EU and other international questions, trade and industry, marketing, tourism, economy, financing, personnel, equality, working environment, organisation, democracy, information, information technology (IT), telephony, security, catastrophe management, consumer questions, archive, and procurement. **Area 2** concerns the following questions: School, leisure, culture, social welfare, integration and immigration, public health, and labour market. **Area 3** concerns the following questions: Physical planning, communications, environmental and health protection, rescue corps, water supply, waste, property, and energy supply.

In Figure 7-14, p. 187 the relation between the eleven offices (eight offices and three committees) and the urban office is shown. Six of these offices, responsibility area 1 and area 3, are organised into one group, which is supervised by the urban office. The other five are self-organised offices, described as responsibility area 2 in Figure 7-14. However, all offices are more or less supposed to be supervised by the urban office. This is described in the following way:

*The urban office is the central office in the municipality and constitutes a strategic management and development resource for the entire municipality. It is also the service organisation for the political organisation and support with law competence as well as with dealing and preparing items on the agenda for the municipal executive board. The urban office should provide the offices and the municipality’s subsidiaries with expertise support and services as well as promote the development in the region and international cooperation. The urban office has responsibility for leading and coordinating the municipality’s common questions and common work tasks for the offices, and it should be a spear head for the municipality’s increasingly extensive development (The municipality’s budget, 2004, p. 48).*
This describes the role and responsibility of the urban office. However, as the ideology of the municipality to a great extent focuses on decentralisation, the different offices have a far-reaching decision authority. The organisation of the urban office is shown in Figure 7-15.

In that structure a “new” IS/IT department is described. At the time for the start of the sourcing decision the urban office did not have an IS/IT department. The urban office had one person who had the title IT manager who were supposed to have the total control over ICT in the municipality. This was not possible since the person did not have the right authority. The municipality’s CIO describes it by saying that:

_In the municipality the tradition has been to decentralise and the different offices have managed the major part of the work by themselves and the ICT development have been done from a technical perspective._

The highly decentralised decision-rights made that the level of control at the urban office was low.

The structure of the municipality follows to a great extent its ideology, which is to strive for a great degree of decentralisation. The administrative organisation of the municipality follows the political organisation, which means that it consists of eleven offices. This means also that each political committee has its own administrative office. A general organisation chart that describes the relation between the political committee and its respectively administrative office is shown in Figure 7-16, p. 190, which also shows a general structure for the different offices. In each of these offices there is a managing director who

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**Figure 7-15 Organisation of the urban office (Based on The municipality’s budget, 2004)**

In the municipality the tradition has been to decentralise and the different offices have managed the major part of the work by themselves and the ICT development have been done from a technical perspective.
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has the overall responsibility for the administrative office. The managing director also has the role of acting as the interface between the political committee and the employees at the administrative office. As described in Figure 7-16 ICT is treated as either a unit or a work task in the offices. The situation is described by the municipality’s CIO in the following way:

The offices have more or less their own organisation when it comes to ICT. Some smaller offices such as the environmental office have its hosting managed by the technical office and the reason is that they are situated close to each other.

The effects of this ideology are very clearly shown in how the municipality has organised hosting of its software applications. Each of the offices has its own organisation regarding software applications and ICT as shown in Figure 7-16.

![Diagram of the municipality's offices organisation](image)

Figure 7-16 General chart over the municipality's offices organisation

The offices that take care of hosting of its own software applications are, according to the municipality’s CIO, as follows: The recreational office, cultural office, school and childcare office, social welfare office, town architecture office, and technical office. Hosting of the upper secondary school office software applications are made by the school and childcare office, and the environmental office uses the technical office for its hosting. The urban office then hosts its own software applications and some of the municipality’s common software applications. The situation is also that some software applications are hosted by external service providers. The responsibility regarding ICT and software applications each office has is described as follows:
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The offices’ responsibility regarding ICT includes hosting of software applications, technical support, user support, education, purchasing of software applications, purchasing of equipment, and installation and implementation of software (Report Coordination of ICT, 2004).

This means that the offices have a great amount of decision-rights regarding software applications. This has resulted in that different offices to a great extent host its own software applications. The municipality’s CIO describes hosting as:

With hosting we mean some kind of customer service organisation, some servers that host business specific software, and management of PC/clients.

The urban office is meant to have the overall responsibility for the common and commonly used software applications and the municipality’s general ICT infrastructure. Stating that and at the same time describing the responsibility as above makes the situation problematic. The situation in 2004 was that the municipality had 57 employees working with ICT, the total amount of servers was 186 and the municipality had 6,543 PC/clients. The distribution of employees, servers and PC/clients in each office is shown in Table 7-2.

Table 7-2 Distribution of employees, servers and PC/clients at different offices in the municipality (Report Coordination of ICT, 2004)

<table>
<thead>
<tr>
<th>Office</th>
<th>Number of “ICT” employees</th>
<th>Number of servers</th>
<th>Number of PC/clients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recreational office</td>
<td>1</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td>Cultural office</td>
<td>3</td>
<td>5</td>
<td>160</td>
</tr>
<tr>
<td>Rescue services office</td>
<td>0</td>
<td>4</td>
<td>50</td>
</tr>
<tr>
<td>School and Childcare office</td>
<td>27</td>
<td>95</td>
<td>4,500</td>
</tr>
<tr>
<td>Social welfare office</td>
<td>8</td>
<td>35</td>
<td>900</td>
</tr>
<tr>
<td>Town architecture office</td>
<td>2</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>Urban office</td>
<td>11</td>
<td>32</td>
<td>320</td>
</tr>
<tr>
<td>Urban office/telephony</td>
<td>2</td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>Technical office/Environmental office</td>
<td>3</td>
<td>12</td>
<td>400</td>
</tr>
<tr>
<td>Total</td>
<td>57</td>
<td>186</td>
<td>6,543</td>
</tr>
</tbody>
</table>

Table 7-2 shows that more or less all offices have employees with ICT related work tasks. The rescue services office is coordinated with the technical office. And the upper secondary school office (in Figure 7-14, p. 187) hosts its software applications in the school and childcare office’s premises. This means that they use the same ICT employees. In the municipality there are three
offices more dominant when it comes to ICT related resources and those are: The urban office, the social welfare office and the school and childcare office. In these offices there are employees who have the position as IT manager. This means that the urban office, the social welfare office and the school and childcare office all have their own IT manager. The rest of the offices in Table 7-2 have one employee each with the role ICT responsible (Compilation of the municipality’s ICT, 2004).

The duality in responsibility is seen as problematic and one effect of this is described by the Leader of ICT development at the school and childcare office in the following way:

One of the weaknesses that we have in the municipality is that, the handling of ICT questions has been correct, but the ICT questions have not got the right attention. One could say that the ICT questions have been wrongly dealt with in the way that the different offices have invested in different software applications without having the overall ICT business on track.

This statement is also supported by the project leader in the urban office. The role as project leader was created and implemented just before 2000. The responsibility for the project leader was at the start to make sure that the municipality managed to handle the Y2K change. The project leader discovered that there were a lot of projects in the municipality regarding ICT and software applications. He also discovered that many of the projects did not succeed and if they were finalised they were not finalised in time. This resulted in a discussion with the IT manager at the urban office and it was suggested to implement a standardised project plan in the municipality. The problematic issue was described by the project leader in the urban office as:

Projects specific for a specific office has been managed by the office itself, the social welfare office has its own projects, the school and childcare has its own projects, and so on. There have been some projects dealing with questions concerning the whole municipality, and what has happened is that this type of projects becomes more and more necessary.

That the different offices have managed their own projects have resulted in that the offices have created and implemented specific software for its business. In some cases this specific software could have been used also by other offices or the office that created the “new” software could probably adopt software
already existing in another office. The decentralised decision-rights on what software applications to be used have created a huge diversity of software applications in the municipality. It has also made it problematic to implement common software in the municipality. The project leader at the urban office states that:

Before coordination between different offices was not that common, but what has happened is that it has been more and more necessary to coordinate and the reason could to a high extent say depends on the evolution of communication technologies. When we now implement something that aims at being common for the whole municipality we get problems because different offices have different configuration on the computers and we have to adjust for that specific configuration, and even worse in the same office it is different configurations.

A related problem not directly connected to configurations of computers but exemplifies the problem with lack of coordination between different offices investments in software applications is described by the Leader of ICT development at the school and childcare office. He describes the problem with lack of coordination between offices by giving the following example:

The latest software that was implemented in the municipality was a scanning tool for invoices. The software is supposed to take care of all invoices digitally and therefore is all invoices scanned. This was a feature of the economic system and therefore the economic department at the urban office made the decision to invest in this. However, since all invoices have to be checked out at different offices, all offices were supposed to be able to use the new software. When the software then was implemented it was found that the screens used at for instance our office were too small making it impossible to use the software. The effect of this was that we (the school and childcare office) were forced to buy new screens which cost us 1 million SEK and for that million we had other plans.

This clearly shows according to the Leader of ICT development at the school and childcare office that:

There is no controlled connection between software applications investments in a specific office and other offices. Instead, what happens is that all offices decides on and makes their own investments. It works more
in such a way that personnel working with ICT at different offices have been told - install this software and make sure it works - and they do so, despite the fact that I sometimes got the impression that they know it will results in problems for other offices.

The assumption he makes is that:

This is in my view one of the major problems in the municipality and by creating a new organisation with a clearer cooperation between the offices and the new IT department it will be easier to create a department that has the knowledge of being a competent procuring unit.

This illustrates the effects of the highly decentralised organisation according to the Leader of ICT development at the school and childcare office. The project leader at the urban office also describes another problem with the highly decentralised organisation:

In my earlier work at a specific office I did not understood the problems that exist when implementing common software and the reason was strictly that the software that we had worked properly. But, what happens is that when the urban office implements something you got problems since there are different opinions on how to manage things at different offices. We had this problem to a high extent when implementing our intranet since some configurations was not appropriate with the intranet.

To further illustrate the effect of the decentralisation and the evolvement of software applications in the municipality, it can be mentioned that a great variety of software is used in the municipality. There are nine different office products, eleven different database systems, sixteen different operative systems, five different e-mail software and 66 different software applications that are identified as critical for the municipality. In addition to those 66 software applications there are an unidentified number of software applications. This could explain the reason for the decision-making process aiming at coordinating software applications hosting. As described by the chief executive officer (CEO) in the urban office:

The welter of the municipality’s software applications and ICT has to be controlled.

This could probably be seen as the starting point of the municipality’s decision-making process and the sourcing decision-making process “ICT and telephony coordination”.
7.2.2 The Municipality’s Sourcing Decision-Making Process

The problems described above made that decision-makers in the municipality saw a need to do something with the municipality’s organisation of ICT and software applications. The experienced need for change made that the municipality started a sourcing decision-making process aiming for reorganisation of hosting of software applications as one part of the decision process. An overall timeline for the decision process is shown in Figure 7-17. The sourcing decision-making process started in March 2002 and ended in November 2004, with the decision (B16)\(^9\) that the municipality should reorganise its hosting of software applications by creating a new department.

![Figure 7-17 Overall timeline for the municipality's sourcing decision-making process (Report Coordination of ICT, 2004)](image)

The process started in March 2002 when, the municipal executive steering committee, consisting of the municipal commissioners and the CEO at the urban office, gave the commission (A1) to the urban office that they should investigate the common ICT infrastructure in the municipality. The directives were formulated in three bullets in the following way:

*After deliberation the steering committee has decided:*

- To give the assignment to the urban office too conduct an overview of the municipality’s central ICT function within the direction of presented intentions,

\(^9\) The labels: A1-A11 and B1-B16 correspond to decisions made and to Table 7-3, p. 213.
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- That the overview should be made within existing financial frames, and
- That the assignment should be reported during 2002 (Minutes from the municipal executive steering committee, 2002-03-25).

The reason the steering committee gave for why making this investigation was the development of ICT in the municipality. The directions were to make a review of the municipality’s common ICT infrastructure. The investigation should investigate and clarify what responsibility the urban office has regarding development, maintenance and hosting of the common ICT infrastructure. It should also describe the need for competence development and how this should be arranged. The intentions were formulated in the following way:

_As a reaction on latest times’s development in the ICT area, the development of network communication and so on, there is a need for investigation of the central ICT function. One purpose of the investigation is to define the leading and coordinating role the urban office has_ (Minutes from the municipal executive steering committee, 2002-03-25).

The starting point for the decision made by the steering committee is a bit unclear. The project leader at the urban office describes it in the following way:

_Who it was that started the decision process we (people working with ICT at the urban office) do not know. But, it is quite clear that we influenced to some extent the CEO. We did not complain but we described the situation and the problems with the common infrastructure and that the other offices made decisions and investments without considering the common infrastructure. We also said that we saw economic benefits as well as other benefits with a more secured hosting with a centralised hosting._

As a result from the directive the urban office (A2) engaged a consultant to make the investigation. The consultant interviewed employees at different offices including some employees with responsibilities for the offices’ software applications. The investigation the consultant made resulted in a report. This was then presented to the urban office in October 2002. The report was labelled “Governance and Management of the municipality’s IT-function”. The title of the report to a high extent describes the result in the report and the view that the consultant has on the municipality’s future development. The organisation at the time for the report is heavily influenced of the thoughts of decentralisation.
The ICT function is decentralised to a great extent, and each office has developed its own organisation for its ICT function. This means that as described earlier each office has its own software applications, networks, servers as well as its own staff for development, maintenance and hosting of both software and hardware.

In the consultancy report, the consultant describes 15 reflections that he draws from the investigation. The reflections from the report are presented below:

- In the municipality questions regarding information and ICT are generally described as being low prioritised among politicians as well as among managers in the offices. It can be said that the prioritizing does not agree with the potential ICT could have.

- A lot has happened in the city. But, the development of ICT is far behind. There is a lack of someone acting as a strong force that drives the development in order to be in the fore-front.

- There is no office that uses Internet or intranet as a delivery tool for giving access to information about foundations for decisions or information about decisions made. The only usage of Internet as a delivery tool that is done is a test for giving politicians access to e-mail and to be able to have distance log-in on the municipality’s intranet.

- It should be clear directions from the executive management such as for instance keeping to a commonly ICT architecture in the municipality. Standards and recommendations have not the impact it should have. Directives and recommendations should come from the top management.

- There are many ways of showing that a municipality is an active and alert municipality. Having a website that is updated is one way. The municipality’s website is described as not “good enough” and since the municipality market themselves as a municipality growing within the area of ICT and service industry the website is not trustworthy. It is not unusual in municipalities to focus on administrative and internal questions. The municipality’s information and communication policy is an example of that. The municipality needs a separate strategic information- and market plan that give directives for the view the municipality should have on its information sharing to for instance citizens in the municipality.
ICT and telephony are more and more intertwined. The development of ICT gives new solutions for telecommunication. IP-based telephony combined with other kinds of data communication demands other responsibilities for telephony and computer supplier. Since the present agreement on telephony in the municipality ends in 2005, it is necessary to prepare for the time after that and what kind of solution that should be selected.

The development of the broadband connection in the municipality has made the question of coordination of hosting arouse. In the planned new data centre it is possible to place several of the municipality’s servers and have a commonly managed hosting and supervision of these.

The quality on the intranet is not satisfactory. It is mostly used as a support for giving telephone references and to some extent as storage for guidelines. Since the intranet is hard to handle and not well working, the usage are low. It is also in that case that the low usability will result in that the usage will probably further decrease.

Several of the offices express that the high degree of freedom is good. They state that it is in the offices that the knowledge of how work tasks should be done exists. It is also stated that this knowledge is necessary to have in order for developing and/or purchasing the right and the needed software. In the offices there is huge scepticism about letting someone else take care of software and servers. One motive expressed for this is that it is not possible to centrally have the competence in and/or knowledge of local office specific software applications.

The security of information is disregarded in many areas. The demand for security thinking is low even in the ICT specific working area. There are also different opinions on the demand and what level of security different solutions needs to have.

The group that handles ICT specific questions meets too seldom and they have too disparate references to become more than a simple group that informs each other.

It is unclear what will happen when the broadband connection is taken into operation. Several offices have contracts with other providers for broadband connections. It is unclear how this should be handled, and
there is no information about what services and the cost the “new” broadband connection will have.

- Commonly used software applications that the major part of the offices see as useful should be financed as a central function. If not, the result could be that separate offices by fees seek to cover their costs and this will lead to sub-optimization of resources in the municipality.

- A specific question is the infrastructure used in a specific building. The question is when the ICT infrastructure becomes comparable with for instance electricity and thereby becomes a part of the buildings owners’ responsibility.

The consultant describes in the report that the organisation of ICT is distinguished to a great extent by decentralisation, and there is no established long-term plan for how ICT should be developed. The report describes the structure of ICT in the municipality as that every office has its own developed ICT organisation. The report also describes that there are three different ways of how hosting of software applications are made. First, software applications developed by the office that uses it also host the software (internal hosting). Second, software applications are licensed from a software vendor while the hosting is made by the office itself (internal hosting). Third, the usage of the software applications is done through a communication link and hosting is thereby taken care of by an external service provider (external hosting).

The 15 reflections described in the consultancy report are further on expressed as 12 recommendations. These 12 recommendations are described in four areas in the following way:

- Information and tools for sharing information.
  - Strengthen the political interest for usage of Internet and intranet.
  - Appoint a political working group that looks into how democracy can be developed by ICT and how the committees can be helped by ICT.
  - Increase the ambition for the municipality’s website. Reallocate and prioritise resources for keeping the website updated.
  - Make sure the problems with the intranet are managed.
o Strengthen the resources for information and move the webmaster from the IT unit to the information unit.

- Systems for communications and structure of hosting
  o Investigate possibilities for and the affects of gathering servers and software applications for both common as well as office specific software applications in the planned data centre.
  o Move ICT functions in the urban office, excluding strategic management, to the planned data centre.

- Coordination of data communication and telephony
  o Coordinate ICT and telephony in the internal organisation
  o Make sure that the start of investigating future demands and that the negotiation of the next purchasing is made in advance.

- Improved strategic governance and management
  o Create a clear governance structure for the municipality’s common ICT function by increasing the role the urban office has in its coordinating and management role.
  o Develop, with all offices, a common plan for which questions that should be prioritised in the common work.
  o Activate the ICT group.

The consultancy report revealed that there was a demand for increasing the strategic management in the municipality. The role of the urban office also needed to be improved. In the consultancy report the consultant makes a clear statement about the benefits of bringing together all servers in the municipality to one centralised data centre. The consultancy report states that:

*There is much that talks for a central localisation of servers. Two important factors are secure operation and effective resource usage* (Consultancy report, 2002).

Secure operation is described as a combination of the following matters: Increased coordination of server usage, increased availability of staff working with hosting, increased possibility to have personnel with a high level of needed core competence, and increased improvement against attacks from unauthorized. The effective resource usage is described as the possibility to use
staff’s core competence regarding work tasks, which means that they use their core competence better. The report also talks about bringing together for instance the help-desk function. When it comes to risks about reorganising the ICT function and moving hosting to a commonly used data centre, the report does not discuss that. The only risk presented in the report is the risk of losing the connection between the business processes and development of new functionality in software applications. It is stated that a coordination of hosting is necessary to combine with a clear directive of responsibility for development at the different offices. The report emphasises that it is in the offices that the need and possibility for support from software applications are seen.

The municipal executive committee was informed by the CEO of the results from the consultant’s investigation. The executive committee decided (A3) to assign to the urban office that they should present a proposal for action. This proposal should have the consultant’s recommendations as a base and make a plan for action and decisions necessary to make for the future structure of the municipality’s common ICT function. The urban office then made an evaluation of the recommendations and describes the investigation as:

*The urban office finds the investigation adequate and that it gives a fair picture of the municipality’s ICT function as well as on how responsibility between different offices and the urban office is distributed (Overview of urban office’s ICT function, 2002)*

The continuing work therefore according to the municipal executive committee (A4) should aim at fulfilling the recommendations given in the consultancy report. The urban office also emphasises (A5) that a new role – the CIO – at the urban office is needed to be able to strengthen the coordination between the municipality’s offices. The recommendations from the consultancy report were summarised (A6) in seven work tasks by the CEO at the urban office and the urban office suggests (A7) that the municipal executive board should decide on those.

The seven work tasks are formulated in the following way:

*The urban office suggests that the municipal council decides that:*

- *Give the assignment to the municipal executive steering committee to consider how ICT can be used to strengthen the political work and democracy,*
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- Give the assignment to the urban office to investigate how the municipality’s website and intranet should be developed so that it meets users demands and expectations as well as economic and organisational consequences from that,

- Give the assignment to the urban office that in cooperation with the affected offices investigate possibilities to coordinate hosting even of the main part of office specific software applications to the planned data centre,

- Give the assignment to the urban office to form proposal on necessary changes of organisation and staffing of affected functions in the urban office aiming at coordinating existing resources and strengthen the urban office’s governing and coordinating role,

- Give the assignment to the urban office that in cooperation with the other offices create a plan for commonly prioritised development questions,

- To create a chief position post with the responsibilities to coordinate and manage the municipality’s ICT function,

- To coordinate questions regarding ICT and telephony in the municipality (Overview of urban office’s ICT function, 2002).

The municipal executive steering committee then suggested (A8) the municipal executive board to make a decision (A9) about giving the urban office these seven work tasks. There are two work tasks among the seven work tasks of importance for the rest of the sourcing decision-making process. The first is the assignment to investigate the possibilities of coordinate hosting of “all” the municipality’s software applications to the planned new data centre. The second is to establish a position of a new CIO at the urban office, which should have the authority as a CIO for the entire municipality.

In December 2002, the municipal executive board gave the commission (A8) to the urban office to work with the work tasks that involved them. One work task was to, in collaboration with offices involved, investigate (A10) the possibility of coordinating hosting of software applications of the planned data centre. Another work task, which probably had the most impact on the outcome of the decision, was to start the recruitment (A11) of the new chief information officer (CIO).
So far in the municipality’s sourcing decision-making process the following has happened. An investigation of the municipality’s ICT structure has been made by an external consultant. The consultant presents 15 reflections, which he further on turns into 12 recommendations described as actions the municipality should fulfil. The 12 recommendations are then described as seven work tasks by the urban office that the municipal executive board should submit as assignments to the urban office. One of these work tasks involved the recruitment of a CIO. This is the next step in the decision-making process and the step that probably had most impact on the outcome of the decision. The recruitment of the CIO leads to the next phase in the sourcing decision-making process and that is the coordinating project, which is described next.

7.2.3 The Municipality’s Coordinating Project

The coordinating project was initiated and started by the CIO almost immediately after his employment. The municipality had during the time from the decision in the municipality executive board to the time when the CIO was in place not been able to work with the tasks that the directive gave. The CIO stated the following during the interview:

_I found almost immediately that the decision taken had low commitment in the organisation and that it would be impossible to implement the decision with that low commitment_

The low commitment is described by the municipality’s CIO as one of the reasons for the start of the project. Another reason for why the project was started is described by the project leader at the urban office:

_In a political organisation such as a municipality it quite often is unclear directives on what to do. If you want to have clear and precise directives you have to write them yourself, if not the directive is in an area that the municipal commissioner is very knowledgeable about._

The CIO describes the directives in the following way during the interview:

_I had the impression when I started to work here by reading the minutes from the municipal executive board that commitment about what to do existed among the involved. I realised after a while that that was not the case. There were questions and doubts about what the decision actually meant both in the management group and at the offices. This meant that I had to start my work with increasing commitment on what to do._
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Shortly after the CIO started to work in August 2003 he organised (B1) the decision-making process as a project. The sourcing project was organised (B2) into five sub-projects: Communication, premises, telephony, technical infrastructure, and user support. The organisation of the project is shown in Figure 7-18, p. 204. The aim of the project was to have high commitment to the decision that finally would be taken. The municipality’s CIO describes it as:

The way I as a civil servant has managed the project is that I have involved a lot of different people in the process, for instance have the different IT managers been leaders for the sub-projects. They have then engaged a lot of people from different positions in the municipality. This means that we have not been three people making the investigation and then only communicating the results.

Figure 7-18 shows the different groups that was involved in the project, and this project organisation was a result of a decision made (B3) by the municipality’s CIO.

![Figure 7-18 Organisation of municipality’s sourcing project (Description of the project, 2003)](image)

The steering committee consisted of the managing directors from the offices, the CEO and the executive officer for the human resources department from the urban office. In the steering committee the CEO acted as the chairman. The reference group consisted of employees with responsibility for software applications at different offices. The union reference group consisted of representatives from the union and the CIO was the coordinator of that group. The working group consisted of projects leaders from the five sub-projects and the CIO. The group of project leaders was the biggest group and in addition to all sub-project leaders also people that acted as ICT responsible at the different offices took part in that group. The main work was done by the sub-project leaders in the working group and in the group of project leaders. The steering
committee was the group that had the overall responsibility and were supposed to be the one that made sure that the project did what it was supposed to do. The steering committee were not supposed to give any directions of the work.

The CIO initiated the project by organising a two-day workshop (B4). During this workshop the directive from the municipality’s executive board was discussed. The workshop resulted in the project plan, shown in Figure 7-19, that was created (B5) and agreed upon. The purpose and goal of the project was also discussed (B6) at the workshop. The project plan consists of five phases described as activities after the initiation.

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**Figure 7-19 A timeline for the municipality’s sourcing project (Report Coordination of ICT, 2004)**

The purpose of the project is described in the following way:

*The purpose is to investigate, within the frame of coordinated ICT and telephony, the possibility to coordinate hosting of ICT including the major part of hosting of software applications used at different offices*

And the goal of the project is described in the following way:

*The goal is to develop a well anchored foundation for the decision in the municipality’s executive board.*

After the workshop the initiation continued. The municipality’s CIO describes the aim of this phase in the following way:
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The first phase was some kind of commitment process. It started in September and continued to December, and resulted in that a somewhat new directive was decided on.

This initiation phase resulted in that the municipality’s CIO presented the project plan for the project’s steering committee in January 2004. To fulfil the purpose and the goal, it was decided (B7) that the project should comprise the above five phases. The steering committee approved (B8) the plan and it was decided (B9) that the project could start. The first phase was to describe the present situation regarding ICT and software applications at the different offices. That it aimed at describing all offices can be seen as an expansion of the original directive that only referred to the urban office and its responsibility for ICT.

Phase 1: Describing the existing situation. In the project plan the aim of this phase is described in the following way:

The aim is to make a description of the situation at present that includes a description of all offices ICT and telephony function. The description should include the following areas: Services, software applications and technical infrastructure, governance and management, coordination with others, roles and responsibilities, organisation, competences and manpower, economical resources and culture.

An important part of the first phase was also to describe and clarify the offices’ views of what hosting, maintenance and development are, and the differences that exist between them. This should result in a report of each office’s effort in those three categories. The description of the present situation should also result in a description of which software applications are developed internal by the office and which are bought software packages. The result from this phase was then to be used as input to the decision (B10) on what different options that should be analysed in phase 3. During phase 1 an environmental analysis was done. This meant that some examples of how other municipalities (B11) had organised hosting was presented. The presentation of the analysis was according to the Managing director of the social welfare office made first after a specific question about how other municipalities had arranged hosting of software applications. The Managing director said:
When I was asking after the presentation of how other municipalities had organised hosting. The CIO had that in his computer, but I got the feeling that he did not want to present it.

The Managing director also says that:

What he presented was not a full picture. It was only two municipalities and both had organised their hosting in the same direction as the final decision became in our decision.

Phase 2: Analysis of requirements. In the report the aim of this phase is to present a “map” over present offices and subsidiaries as well as future demand and need on ICT and telephony. The demand and need were supposed to be described in functional as well as economical terms. It was stated that demand of functionality could be described in for instance availability, security, support and capacity. In addition to this also demand and need from the different offices of common software for the entire municipality as well as between different offices should be described. It should also describe the need of software applications in the cooperation with external partners. From the descriptions strengths, weakness, opportunities and threats (SWOT) analysis was conducted. The SWOT analysis was used as input in the development of six scenarios. The scenarios were discussed during a one-day workshop with employees responsible for ICT and the result from that workshop was the six scenarios. These scenarios are described by the municipality’s CIO in the following way:

- Scenario 1, the organisation including hosting should be kept as it is today.
- Scenario 2, build a commonly managed data centre, no change of the organisation, each offices should still be responsible for their own equipment.
- Scenario 3, build a commonly managed data centre and move hosting to that data centre.
- Scenario 4, create a commonly managed organisation for hosting.
- Scenario 5, create a new ICT office.
- Scenario 6, outsource hosting to an external partner.

The IT manager at the social welfare office says that scenario 6 was dismissed early in the process. He describes the dismissal in the following way:
The alternative (outsourcing) was early said not being actual and the reason was that it is probably better to make an internal outsourcing first and that we thereby have a clear picture over our internal costs before we outsource to an external partner.

Phase 3: Analysis of different hosting scenarios. During this phase demands in the form of restrictions that directly or indirectly affect hosting of software applications should be identified. This could be described as restrictions on the budget or policies. This phase should also develop different alternatives by using the results from phase one and two and the restrictions identified in this phase. The alternatives should be described, analysed, evaluated, calculated and prioritised. The SWOT analysis was deepened during this phase and was discussed during a two-day workshop. The result from that workshop was the decision (B12) of suggesting to the steering committee that the project should continue with two alternatives, scenario 2 and scenario 4. The steering committee then made the decision (B13) to let the project focus on the two suggested alternatives. The Leader of ICT development at the School and Childcare office says:

The steering committee gave the permission to continue the analysis of the suggested alternative, were one was to have total coordination and the other was to have a possibility for the offices to choose if they want to use the common data centre or not.

During the interview the Leader of ICT development at the School and Childcare office expresses the following:

Now I became uncertain about the alternatives and that probably depends on that I have been so focussed on the alternative of total coordination that the other alternative had not so much attention.

This phase resulted in the decision (B14) that the project should continue with a deepening study of the two suggested alternatives, and compare these two alternatives with taking no action (scenario 1).

Phase 4: Deepening study of suggested alternative. During this phase it was said that the suggested alternative should be investigated further and be combined with a plan for the implementation as well as a budget. The phase should result in a description of the implemented alternative. During this phase the alternatives discussed was scenario 2 and scenario 4. The work during this phase consisted of interviews with people responsible at the different offices.
The analysis resulted in that scenario 1 was compared to three different alternatives: Scenario 2 and Scenario 4a and 4b. The differences between scenario 4a and 4b was that user support considering office specific software applications differed. In scenario 4a the user support should include also office specific software applications and this was described as total user support. Scenario 4b then excluded user support of office specific software applications. In the report Coordination of ICT it is written that:

*Biggest focus has been on scenario 4 since no central user support is planned in scenario 2.*

The report Coordination of ICT also states that:

*A coordinated user support and logistic function would mean that the user/the offices will ha an increase in effectiveness and increased access to software applications. And for the employees on the IT department it will give possibilities to competence development, a possibility to specialise, and have new colleagues.*

Scenario 4 is in the report described as the best alternative. Based on the results, the project group recommends, a commonly organised user support excluding office specific software applications scenario, 4b (Report Coordination of ICT, 2004). It also states that the municipality in the future should aim at also coordinating user support for office specific software applications (scenario 4a).

**Phase 5: Development of an implementation plan.** The aim of phase 5 was to develop a three-year activity plan with budget attached. The activity plan should discuss both daily activities as well as the evolution that are demanded for having an effective hosting in the future. Necessary investment should also be described in the plan. This was supposed to happen after the final decision was made. It can be stated that the development in a way started already before the decision was made. The work that was made considering implementation probably influenced the final decision and since this was focused on a decision that would aim for scenario 4 it is not surprising that the final decision was scenario 4.

The CIO presented the result of the project to the municipal executive board in October 2004. It was stated in the report that a decision to position the municipality for its future development was necessary. There were two options. The options were to:
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Continue with the ICT infrastructure that historically has been built in the different offices with a very low grade of coordination... or ...to coordinate the ICT function and telephony for better usage of existing resources making the municipality prepared to meet future challenges and possibilities of increased effectiveness.

The basic data for the decision-making was a report from the project work, a file of investments necessary to do from 2005 to 2007 and an estimate of costs for hosting after the reorganisation. The municipal executive board decided (B15) in favour of the option aimed at restructuring and coordinating hosting of software applications and ICT in the municipality. Since this decision meant exceeding the approved budget, it needed approval by the municipal council. This was granted in November 2004, and the decision (B16) was to coordinate the hosting of software applications and ICT in the planned new data centre. The decision by the municipal council was unanimous.

As described by the urban office’s CEO the result from the project will restrict the different offices possibility to act as they will. He describes that in the following way:

What we are doing at the moment is to restrict the offices possibility to act. The offices have so far more or less has total decision-rights regarding their ICT. The result will – it can not be denied - be that the decision-rights will be restricted to a great extent.

In the next section the municipality’s sourcing decision-making process is summarised.

7.2.4 Summing up the Municipality’s Sourcing Decision

The municipality is an organisation without big changes regarding its structure. Despite that a lot has happened in the municipality, especially regarding development of software applications and usage of software applications. It can be stated that the portfolio of software applications has grown without control and that was the main reason for the start of the sourcing decision. The sourcing decision was made as a project during the years 2002 to 2004. This project resulted in a decision that the municipality should reorganise hosting into a new planned data centre, but also that it should create a new IT department in the municipality. The project started in March 2002 and was finalised in November 2004. This section will summarise the sourcing project by first giving a summary of why the project was started. It then gives a
7.2.4.1 Why the Municipality Started the Sourcing Project

The CIO describes a set of three driving forces that can be said to be the reasons for the start of the sourcing decision in the municipality. The CIO says:

As I have understood it there were three driving forces that made that the municipal executive steering committee made the decision of starting the sourcing decision: Possibility of having distance provision, a need for decreasing costs and a need for increasing information sharing.

The influence these three driving forces had on the start of the municipality’s sourcing decision-making process can be described in the following way.

First, the possibility of having distance provision of software applications is a result from the evolution of ICT and software applications. The municipality’s CIO states that:

It was understood in the municipality that other municipalities have restructured their hosting to a higher extent. And what they had done was to use the possibility to have distance provision of software applications and thereby use some kind of scale of economics for the cost of hosting.

This was described as a reason for doing something so that the municipality would not be seen as a municipality that did not follow the progress of software applications and thereby did not use the possibility that could be gained by software applications.

Second, the cost perspective was emphasised as a need to decrease costs, and reorganising hosting was described as a way of decreasing the cost.

Third, centralising hosting of software applications was also emphasised as a way of increasing the possibility of sharing information in an effective way. To the municipality’s CIO, how hosting is organised is a critical question for the municipality and how the municipality thereby can increase control over usage as well as control over costs.

According to the municipality’s CEO there were two reasons to start the decision-making process aimed at restructuring hosting of software applications in the municipality. First, the municipality needed to increase its control over its ICT costs. ICT costs had probably increased considerably. The
reason for using the word “probably” is that the municipality did not know how much it’s ICT cost. In each unit the committees had, according to the CEO, a good grasp of their own costs. But overall control of costs was weak. Cost control was emphasised as one area that must be improved. Weak cost control was also given as one reason why outsourcing was not seen as a possible alternative at this stage. However, the attempt at coordinating and increasing control was described as aiming to facilitate having an external partner to compete with the internal data centre.

Second, security was emphasised as an important factor for starting the process. The hosting of a number of critical software applications was dependent on only one person. This was described as an effect of decentralisation, and the decision-makers saw centralising hosting as the only alternative. The other security concern was that some of the committees did not have suitable premises for their servers. Both cost and security reasons could be described as a need to increase control and could therefore be seen as an attempt to increase governance of software applications in the municipality.

To increase control over ICT and software applications usage can therefore be seen as the reason for the initial directive from the standing committee in March 2002, which was to investigate the municipality’s general ICT infrastructure. From the consultant’s report it seems that his investigation went further than what the original directive stated. Although he was not asked to investigate the ICT infrastructure of the individual committees, he did so and he also recommended having a total investigation into centralising hosting of all software applications at a central data centre. It is also not clear whom the consultant interviewed. Interviews made in this study gave the impression that it was mostly employees at the urban office who were interviewed by the consultant. In that respect the investigation seems to be somewhat biased. This was also indicated in the interviews where representatives in the decision-making process claimed that the outcome of the process had already been decided before it started. They also say that they were not involved in the first investigation made by the consultant despite the fact that the investigation involved their work to a great extent. The consultant’s report has one point that reflects the results of the entire decision-making process in an interesting way. He states that the development of broadband connections in the municipality prompted the issue of a coordinated hosting of the entire set of the municipality’s servers. This indicates that an understanding of the history of an
organisation is important to understand why decisions are made. It goes back to
the start of the investigation and the question of power and politics in the
decision-making process. In this study it has become clear that there is a group
of five people who, on a more or less regular basis, meet every week. This
group consists of IT managers from various offices and the CEO of the
municipality. They have no formal decision authority but they do have the
possibility to discuss and propose what should be done.

It could be argued that one reason for the municipality to start the sourcing
decision process was that decentralisation of ICT resources had gone too far at
least from the entire organisation’s perspective. The municipality had built a
structure in each department leading to increased complexity in the hosting and
maintenance work of its software applications.

7.2.4.2 How the Decision-Making Process were Made

The sourcing decision-making process in the municipality took 20 months. It
consisted of a lot of decisions that were made by different decision-makers.
These decisions are shown in Table 7-3. This table describes the decisions
identified in the description delivered in Section 7.2.2 and in Section 7.2.3. The
number A1 – A11 relates to the investigation of the municipality’s ICT
infrastructure and the number B1 – B16 relates to the coordinating project.

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<tr>
<th>Label</th>
<th>Investigation of the municipality’s ICT infrastructure</th>
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<tr>
<td>A1</td>
<td>Decision on giving the commission to the urban office that they should investgate the common ICT infrastructure in the municipality</td>
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<tr>
<td>A2</td>
<td>Decision that a consultant should be engaged to make the investigation</td>
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<td>A3</td>
<td>Decision on assignment for the urban office that they should present a proposal for action</td>
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<td>A4</td>
<td>Decision that the continuing of the work should aim at fulfilling recommendations from the consultant</td>
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<td>A5</td>
<td>Suggestion of creation of the new role “CIO” in the urban office</td>
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<tr>
<td>A6</td>
<td>Summarisation of the recommendations into seven work tasks</td>
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<td>A7</td>
<td>Suggestion from the urban office on decision to take by the municipal executive board about the seven work tasks</td>
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<tr>
<td>A8</td>
<td>Decision in the executive steering committee that they should suggest assignment from the municipal executive board that the urban office should work with the seven work tasks</td>
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<tr>
<td>A9</td>
<td>Decision that the urban office should work with the seven work tasks</td>
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<tr>
<td>A11</td>
<td>Decision that the recruitment of the CIO should start</td>
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<th>The Coordinating project</th>
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The municipal council, the municipal executive board and the steering committee made the following decisions during the time for the sourcing project: (A1) The municipal executive board decided that the urban office should start an investigation of the common ICT infrastructure in the municipality, they also made the decision (A9) that the urban office should work with the seven work tasks suggested from that investigation. The steering committee then decided (B9) that the project could start and that the project should focus (B13) on the two suggested alternatives. The municipal council in November 2004 made the decision (B16) that hosting should be centralised and that a new IT department should be created.

**7.2.4.3 Result of the Sourcing Decision**

The final decision was that hosting should be centralised and that a new IT department should be created. This decision meant that an investigation of how to implement the new “organisation” started. The sourcing decision-making process had not discussed that so far; what was decided was that the urban office should be responsible for the new IT department.
7.3 Chapter Summary

This chapter describes two organisations and their respective sourcing decision. The organisations, Posten AB (MeLo) and Jönköpings Kommun (the municipality), have some similarities and some dissimilarities. They are both relatively big organisations, MeLo has 35,000 employees and the municipality has 10,000 employees. They are also both of them to some extent governed by politicians; MeLo has during the last year gone through a reorganisation with the purpose of being forced to act in a competitive market. The municipality is a political organisation. Both organisations has a structure that are heavily decentralised, MeLo has changed that to some extent, and the municipality has by deciding on a centralisation of hosting made a small step in the direction of being more centralised. They had before the sourcing decision-making process a decentralised structure of ICT with own departments/offices that had a huge amount of decision-rights regarding software applications. It can be said that both organisations had a weak governance structure regarding software applications. The sourcing decision process in both organisations is similar since they both in a way go in the direction of outsourcing. MeLo decided to outsource while the municipality decided to make an internal reorganisation which from the perspective of the involved offices can be described as an internal outsourcing. One of the dissimilarities is that MeLo decided on an external provider while the municipality decided on keeping hosting internal in its organisation.

Another dissimilarity is how they describe the importance of how hosting is done. Hosting of software applications is not described as a critical question for MeLo but it is described as a critical question for the municipality. This difference can be explained by the fact that the two organisations are at different levels of control over software applications usage. MeLo has a better control over what software applications there are and the usage of these software applications than the municipality has. MeLo’s view is not totally clear and concise regarding what software applications are used and the purpose of each and every software application, but it is more controlled than in the municipality. The municipality’s CIO does not have that and there are three reasons for that. First, the CIO is quite recently employed and it can be stated that it takes some time before being acquainted with the total picture. Second, the CIO is employed with the purpose of making sure that the municipality in the future has better control. Third, the history of the
municipality has resulted in a high level of decentralisation with weak governance control from the top level, resulting in weak control regarding software applications. This implies that from the perspective of control, hosting and how hosting is done is seen as a critical question in the municipality. The result from this is that decision-makers in the municipality see reorganisation of hosting as a way of improving control. The situation can be described as being the same in MeLo. But the situation in MeLo differs in one way because MeLo reorganised its organisation at the same time as the sourcing decision-making process was conducted. This reorganisation resulted in that MeLo became more centralised and that ICT got a more prominent role in MeLo’s executive management group. To further strengthen the control, the decision-makers at MeLo saw outsourcing as the solution to improve governance of software applications in MeLo.

In MeLo as well as in the municipality the reason for the decision can be found in a need to increase control. This control concerns control over costs, control over usage, control over development, and control in the direction of making it possible to having increased interoperability between software applications. The next chapter, Chapter 8, will analyse in more depth why and how organisations’ sourcing decision-making processes are made.
Chapter 8 – Findings about Why and How Sourcing Decisions are Made

The aim of this chapter is to give answers on the questions presented in Chapter 1, but also to provide the next chapter, Chapter 9, with useful explanations for conclusions presented about sourcing decisions. It does so by analysing findings from the empirical data with the initial propositions that were described in Chapter 5 and Chapter 6. This means that findings from the sourcing decision-making processes made in MeLo and in the municipality, presented in Chapter 7, are used for presenting developed propositions about sourcing decisions. The propositions presented in Chapter 5 and Chapter 6 are used both to structure the chapter but also to analyse sourcing decisions by relating them to the empirical data and thereby further develop them. Figure 8-1 describes the relation between Chapter 7 and Chapter 8 and the relation between the initial propositions and the developed propositions.

![Figure 8-1 Relation between initial propositions and developed propositions](image)

The aim of the chapter will be fulfilled by describing and explaining: Why organisations start sourcing decisions (Section 8.1), how they make these decisions (Section 8.2), and what relations that exist between why and how in sourcing decisions (Section 8.3). The chapter then ends with a summary.
8.1 Why Sourcing Decisions are started

As described in Chapter 5, there are many reported reasons why an organisation starts a sourcing decision-making process, and what factors that influence the start of a sourcing decision-making process. This section builds on propositions from these factors, and aims at analysing and suggesting answers on how they influence the start of a sourcing decision-making process. The factors are the following five: Control, core competence, capability, cost and strategy. The reason for why just these factors are selected builds on the results from Johansson (2004a) and the model described in Figure 2-2, p. 28. That model suggests that these factors are influential in different ways on the final decision in a sourcing decision-making process. In Chapter 5 these factors were discussed in more theoretical depth, and that discussion resulted in five propositions regarding why organisations start a sourcing decision. This section will analyse how these factors can influence the start of a sourcing decision-making process using the empirical findings presented in Chapter 7 and analyse these from the presented propositions in Chapter 5, as described in Figure 8-1, p. 217. The aim of this section is to present developed propositions of why sourcing decisions are started.

8.1.1 Why and How Control affects the start of Sourcing Decisions

**Proposition 1:** A sourcing decision process may start because organisations need to improve control/governance regarding software applications.

The empirical data from both MeLo and the municipality suggest that the start of their sourcing decisions were heavily influenced by a need to increase control. What the control was about differs between MeLo and the municipality. Decision-makers in the municipality more or less emphasise two issues that need to have a better control: 1) control of software applications costs aiming at decreasing costs in the future, and 2) better control over what software applications that are used in the municipality. The CEO at the municipality’s urban office describes it in the following way:

*The usage of software applications has increased a lot and so has the costs. We can not continue to have this increase in costs so we have to do something.*

This indicates that it is not only the need to decrease already existing costs that made the municipality start the sourcing decision but also a need to make sure that costs not further accelerate. The way the decision-makers at the
municipality described how to do this was not only by improving cost control. It was also described as a need for improving the overall control over software applications, and according to the municipality’s CIO it is necessary to increase control over what software applications that are used to be able to increase cost control in the long-term.

Control as a reason for starting a sourcing decision-making process was also emphasised in MeLo. MeLo’s Chief controller describes control as one reason why MeLo made the decision to outsource. He describes it in the following way:

> When new services are needed somewhere in the organisation the situation today is that the one who needs the new service has to use a formal way of ordering that service. Before we outsourced the case was that anyone could order anything and the internal ICT department gladly delivered it and got paid. If that happens today a bill from the provider will come and that has to be paid by someone.

According to MeLo’s Chief controller the CEO’s lack of control over the total situation, both control over software applications usage as well as lack over control over software applications costs, was one of the reasons why the outsourcing process started. MeLo’s IT manager describes outsourcing as a way of improving control over software applications in the organisation. Both MeLo’s IT manager and MeLo’s Chief controller state that outsourcing hosting of software applications has forced MeLo to be more business-orientated in its action. This means according to MeLo’s IT manager that it has become clearer what the different parties do and their roles and responsibility are more clearly described. This was described as the main reason for the start of the sourcing decision process by the IT manager in MeLo. In that way it can be suggested that one of the main reasons for the start of MeLo’s outsourcing process was a need to improve control over software applications usage and thereby control the cost. MeLo’s IT manager and Chief controller both state that it had been possible to implement this improved control over software applications usage at MeLo by doing an internal restructuring. However, they state that it probably had taken longer time and it had cost more money to run that organisation compared to the outsourcing solution. This indicates that the cost perspective and cost control also played a role in the start of the outsourcing project at MeLo.
Deciding on Sourcing Option for Hosting of Software Applications

When adopting the definition of governance from Weill and Ross (2004) and comparing that definition with what the municipality wanted to receive, it can be said that the municipality needed to strengthen ICT governance. The reason for starting the sourcing decision in the municipality can therefore be said to start from the idea of centralising hosting and how centralised hosting could improve control over software application usage. This can be compared with statements made by Weill and Ross (2004) who state that strong governance is possible to have without having a heavily centralised organisation. Instead, they describe strong governance as a result of having clear and concise rules of what decision-rights decision-makers have at different hierarchical levels in the organisation. This can be related to the question of control and how to increase control or what control that is important to have at the highest hierarchical level in the organisation. The statements from Weill and Ross describe the importance of having control over strategic decision at the top level of the organisation. However, they do not connect that to a centralised hosting.

Comparing this to the municipality some of the decision-makers in the municipality and especially the CIO saw it as necessary to have centralised hosting to be able to have control over strategic decisions. This view was not supported by all decision-makers in the municipality and for instance the IT manager in the social welfare office at the municipality describes the idea of having increased control by centralising hosting in the following way:

I think that it is not to have a centralised hosting organisation that is important in the future. Instead I see it as important to have common tools for information in which you can integrate, combine, and publish information. Not that all software applications are hosted in the same server or in a huge data centre. It is not that, that will be important in the future, what it all is about is to be able to integrate information in a good way and that is not dependent on how hosting is organised.

The IT manager in the social welfare office describes the necessity to have control over what software applications that are used, but he does not see centralisation of hosting as the solution for having control. He argued that it is possible to have control over software application usage as well as control over costs by implementing a clear and concise strategy for the infrastructure. According to him, it is not necessary to centralise hosting of commonly used software applications. However, it needs to be a centralised decision on what software that would be used. This means that how and where hosting of
software is done is not seen as a critical question from his point of view. The same opinion is to some extent also described by the Managing director of telephony at the urban office in the municipality, that says:

*This idea of coordination and creating a centralised hosting organisation for ICT and telephony for being able to have effective usage of resources and save costs, that idea had been possible to do without creating the centralised hosting organisation.*

These statements show that the start of the sourcing decision-making process is driven by a desire to increase control. It also shows that different decision-makers have different thoughts about how to increase control. This could maybe be explained by differences in maturity level in the organisation regarding software applications. It can be proposed that the different thoughts from decision-makers and the different ways that they suggest of how to increase control in addition to maturity level explains what the control is about. The municipality as well as the MeLo case show that. It also shows that the kind of control that the organisations want differs. The differences as such can be explained by referring to McFarlan and McKenney (1983) as well as Ross, Weill and Robertson (2006) and the statement they make that organisations are at a certain level regarding maturity of software application usage. It can be stated that if hosting of software applications are at different maturity levels, the maturity level influences the start of a sourcing decision to a high extent. It could be asked in what stages of maturity the investigated organisations were at the time for the start of the decision process as well as what influence maturity level had on the start. The stages that McFarlan and McKenney (1983) describe are initiation, contagion, control and maturity, which were described in more detail in Chapter 5. The usage of software applications and how the hosting is done in the municipality could be described as being in the contagion stage and aiming at the control stage. The reason for this is that in the municipality a lot of new software applications still evolve mainly because of a transformation to becoming more of an e-government, resulting in that there are and have been a lot of new software applications adopted. The hosting of these applications has been solved in an *ad hoc* way, meaning that the control aspect on hosting has been low. This stipulates that the reason for starting the sourcing decision could be described as a transformation of hosting from the contagion stage to the control stage, and it can be said that it started because the municipality needed to control the future development of software applications. To do that, the
municipality’s CIO saw an internal restructuring of hosting of its software applications as necessary.

One reason for why the municipality has a need for increasing the control is that the different offices have adopted a lot of software applications. This adoption has followed the ideology that exists in the municipality resulting in a heavily decentralised organisation, and according to the municipality’s CEO one reason for the municipality to start the sourcing decision was that the organisation had decentralised too far. As Simon (1960) describes it, decentralisation or centralisation is not a question the organisation has to decide on if it should do or not. Instead it is a question of how far the decentralisation or centralisation should go. In the municipality the decentralisation of hosting of software applications has gone too far at least from the entire organisation’s perspective. The offices have developed into own entities, resulting in that hosting as well as maintenance and development of software applications have increased in complexity. This increased complexity can be seen as a question of control in at least two ways, either necessary to control so that complexity not increases, or necessary to control so that complexity decreases. In both cases it can be said that complexity is a result from lack of control. It can be assumed that the municipality by reorganising hosting wants to decrease complexity by improving control, since the centralisation of hosting aims at decreasing the amount of for instance software applications.

When it comes to the usage of software applications and how hosting is done in MeLo, it could be described as being in the control stage, at the time for the start of the sourcing decision-making process, and aiming at the maturity stage. The reason for that is that the MeLo organisation has made a major restructuring of its organisation which was implemented in 2001. It can also be proposed that the amount of new software applications is not very high. MeLo had in a way already adjusted to e-services and had a hosting structure that was controlled before the sourcing decision started. What MeLo instead needed when it comes to control was control over existing software applications and in that way more of control in the direction of regulating control reaching the maturity level.

Comparing the start of the sourcing decision in the municipality with the start in MeLo, it can be suggested that the sourcing decision was started by a need to increase control but from different maturity levels regarding hosting of software applications. There were also some differences from what hierarchical
level the initiative for the start came. In MeLo the start could be described as a
top-down initiative, while the initiative in the municipality could be described
more as a bottom-up initiative, since it as described in Section 7.2.4.1 p. 211
most probably was the group of five people consisting of the IT managers and
the municipality’s CEO that influenced the municipal executive steering
committee to make the decision of starting the sourcing decision-making
process. This indicates when using Weill and Ross’s (2004) description of ICT
governance as decision-rights, that it can be assumed that the sourcing decision
process in the municipality was started from a need to strengthen the decision-
rights of what software applications to use while the process at the MeLo
organisation started from a need to strengthen the decision-rights of how to use
existing software applications.

When it comes to the start of sourcing decisions from the top level, it could be
described as a start from problems regarding control. In the municipality the
urban office was supposed to have control over the municipality’s entire ICT
infrastructure. This control was discovered as problematic because the different
offices had a high level of own decision-rights and used that to implement
software applications that were hard to adjust to the infrastructure. This can be
compared to corporate governance and key assets governance in organisations
(Weill & Ross, 2004). In Chapter 5, (Figure 5-1, p. 91) the relation between
corporate and key assets governance in organisations was described. Using that
to explain software application governance in the municipality, the governance
in the municipality can be described as weak. This weakness was discovered as
a lack of control over software applications development by mainly the
municipality’s urban office. The reorganisation of its hosting of software
applications is in my view an attempt to strengthen the governance over
software applications. Weill and Ross describe the intersection between
corporate and key assets as an executive team. In the municipality this team can
be described as the informal group of four IT manager at the most dominant
offices. This group is informal in the way that they do not have formal
authority as a group. To increase influence from the group and to provide it
with more formal authority, the urban office suggested having a new position in
the form of a CIO in the municipality. This suggestion originated from the
informal group in the municipality which indicate that it was the administrative
units that in a way started the decision process and the problems of low control
of software applications was raised from that group.
Control as a factor for why a sourcing decision-making process is started has strong support in the thesis. Control can have at least two directions. The first is to control software application costs and the second is to control software application usage. Control of software applications usage in this context should be seen as controlling what software applications there are in the organisation and how these are used. It can be suggested that which direction that has the strongest influence of the start in an organisation differs from the maturity level the organisation has regarding software applications. In a more immature organisation, the control over software application usage influences more than the control over software application costs does. In the more mature organisation, the control over software application costs influences the start more than the control over software application usage does.

The analysis of why and how control affects the start of sourcing decisions is summed up into the following propositions:

**Proposition 1a:** A sourcing decision start can, independent of whether the start is a top-down or a bottom-up initiative, be described as heavily influenced by control.

**Proposition 1b:** A sourcing decision start can be described as more focused on having cost control over software applications if the initiative is more top-down.

**Proposition 1c:** A sourcing decision start can be described as more influenced by control over software applications costs the more mature an organisation is regarding software application usage.

**Proposition 1d:** A sourcing decision start can be described as more influenced by control over software application usage the less mature an organisation is regarding software application usage.

Another factor connected to the start of a sourcing decision and to decision-makers’ views is core competence. The next section discusses the influence core competence has on the start of sourcing decisions.

### 8.1.2 Why and How Focus on Core Competence Affects the Start of Sourcing Decisions

**Proposition 2:** A sourcing decision process may start because organisations need to focus on core competence.
In the interviews with decision-makers in MeLo as well as in the municipality, none of them describe a focus on core competence as a reason for why they started their sourcing decision-making process. What they state during the interviews is that they do not see hosting of software applications as a core competence. Despite the fact that they have the same opinion that hosting not is a core competence, they come up with different decisions on how to handle the hosting in the future. In a way this illustrates the difficulties with defining what the core competence in an organisation is (Prahalad & Hamel, 1990) and how hosting of software applications relates to their core competence.

As described in Section 5.3.2, core competence is often suggested as a reason for reorganisation of hosting of software applications. It is argued that an organisation should adopt external service provision for hosting of software applications if hosting is not a core competence (Kakabadse & Kakabadse, 2002; Dewire, 2001; Aalders, 2001). One reason for why the literature suggests core competence as a factor influencing the start of a sourcing decision-making process could be that core competence is used with the purpose of justifying a decision already made or justifying the start of the process as such. I would say that core competence could be used in two distinct ways when explaining sourcing decisions: First to justify the start of a sourcing decision-making process, and, second to justify the made decision. From this it can be suggested that core competence does not influence the start but core competence is used for justifying the start as well as justifying the direction of the decision as well as the final outcome.

I would say that if the argument for starting a sourcing decision is focusing on core competence, the result is most probably to decide on external provision of hosting. This can certainly be the wrong decision and the reason for that is that decision-makers have not taken the arguments from Mata et al (1995) into consideration enough. Mata et al. argue that if and how software applications contribute to an organisation’s core competence is dependent on how software applications is managed and it is not a question of where it is located. In a hosting decision this can result in that the organisation to quickly decide that hosting is not our core competence and the organisation thereby lets another organisation take care of the hosting. This could result in that the usage of software applications affects the organisation’s processes negatively and that the core competence that were supposed to be supported does not get the support it needs to still be the organisation’s core competence.
The thesis does not support core competence as a factor influencing the start of a sourcing decision. This is contrary to the earlier reported findings that state the fact that core competence is a factor that influences the start. The findings instead stipulate that core competence is used as a justifying factor by decision-makers for why a sourcing decision-making process was started. Core competence is also found to be a justifying factor for the final decision in a sourcing decision. This means that if the decision-makers’ desired outcome is, for instance, outsourcing they use core competence as a factor for justifying the start as well as the outcome of the sourcing decision-making process. They do so by stating that the work tasks that are outsourced are not part of the organisation’s core competence. The same situation then exists if the decision-makers’ desired outcome is to keep hosting internal. The statement from decision-makers is then that hosting needs to stay inside the organisation since it is part of the organisation’s core competence.

The analysis of why and how focus on core competence affects the start of sourcing decisions can be summed up into the following propositions:

**Proposition 2a:** The need to focus on core competence is not a factor that seriously influences the start of a sourcing decision regarding hosting of software applications.

**Proposition 2b:** The need to focus on core competence is to some extent used by decision-makers as a justifying factor why sourcing decisions are started.

**Proposition 2c:** The need to focus on core competence is to some extent used by decision-makers as a justifying factor why the specific alternative was chosen in the final decision in a sourcing decision.

The conclusion from this discussion is that core competence does not influence the start of the sourcing decision-making process in either of the studied cases. Core competence is closely related to an organisation’s capability, as described in Figure 4-2, p. 62, and the question is how the need for improving capability influences the start of a sourcing decision. This is discussed in the next section.

### 8.1.3 Why and How Capability Affects the Start of Sourcing Decisions

**Proposition 3:** A sourcing decision process may start because organisations need to increase capability gained from software applications usage.
In the interview with the municipality’s CIO, he describes the need for increasing capability gained from usage of the municipality’s software application. He does so from different angels. The first is that the municipality needs to develop software applications that support the municipality’s processes. He describes it in the following way:

_We will need to be more effective in our processes and arrange so that the municipality can give good services in the future. We have to use ICT and be much more effective with the help of software applications and we can not do that with the structure we have on ICT today._

The second is related to the need for developing the municipality’s e-government services. This is described as demanding an increase in software applications investments as well as demanding development of commonly processes that goes over the borderlines between different offices. According to the municipality’s CIO this is not possible to do without coordinating hosting of software applications. In the report it is stated that it would be a benefit if these investments are made as joint investments in the municipality (Report Coordination of ICT, 2004).

Both these reasons, increase of support for internal processes and development of e-government services, can be seen as a need for increasing the capability received from software applications. To be able to do that the municipality’s CIO states that a coordination of hosting is necessary. From this it can be proposed that the start of the municipality’s sourcing decision was to some extent made from the idea of increasing capability.

It can also be suggested that the start in both MeLo and the municipality did not focus totally on increase of capability. If that had been the case a more distinct discussion about how different sourcing options best support a specific software application had been discussed. The sourcing decision-making processes investigated in MeLo and in the municipality do not support this. It can be explained in two different ways. First the investigation focuses on the decision of different options for hosting and does not specifically focus on the choice of different solutions for different software applications. Second, at the time for especially MeLo’s decision, the trend of outsourcing was to outsource to one single provider. This is described by MeLo’s IT manager in the following way:
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If we should do this outsourcing again we would probably never sign a contract with one single provider. Instead would we use the concept of multisourcing and sign contracts with different providers for different services, if not finding one provider that uses subcontractors, but in any case it would be different providers for different services.

One reason for the final decision in the municipality was as described by the municipality’s CIO that the municipality has to prepare for the future. What he means by this is that the municipality has to be prepared for being more of an e-government in the future and this demands a higher capability when it comes to software applications. This higher capability can be expressed as a need for improving flexibility in how software applications can be used. The CIO in the municipality sees a centralised hosting as more or less the only solution to have that. He describes the need for increasing software applications flexibility by stating that citizens’ interaction of a specific task often demands an involvement of software applications from different offices. These demands are easier to solve if the software are hosted at the same place according to the municipality’s CIO.

One reason for why a sourcing decision starts is that an organisation’s decision-makers see it as important to increase the organisation’s capability. One way to do that is to change how the hosting is done in the organisation. From that follows that decision-makers see different sourcing options as an ability to influence the possibility to increase capability. Dewire (2001) argues that an organisation should adopt external service provision if there is a need for a flexible ICT infrastructure, if it needs to scale its ICT infrastructure quickly, if the organisation needs to switch to another environment in the near future, if it needs to deploy applications rapidly, or if the organisation finds it difficult to attract and retain ICT staff. All these reasons are about capability.

I would say that a need for increased capability as the reason for starting sourcing decisions is not that commonly stated in theory. One reason for that could be that decision-makers in organisation do not say that they have problems with the capability regarding software applications. The reason for not saying so is probably to some extent found in the complexity that exists within the field of software applications. This can be related to the productivity paradox as described by Brynjolfsson (1992) and the difficulties in evaluation of impact by software applications. It can also be described as an effect of who it is that are supposed to make the statement and the difficulties of having IT
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manager to evaluate their own work (Johansson, 2004a). I would also say that capability is more of a reason for choosing between different alternatives during the process than it is for the start of the process. An explanation is the fact that decision-makers do not see capability as the reason for the start since they probably have difficulties in evaluating if existing capability is good or bad (Hitt & Brynjolfsson, 1996). This can be supported by statements from the interviews in both MeLo and the municipality, that state “we could deliver the needed software applications capability by ourselves”.

Brunsson (1985) describes the risk with that an organisation is too inflexible. Basic thinking about organisations is that individuals who work together makes it more inflexible than if each of the individuals had worked on their own. But individuals cannot achieve the same results by themselves. This means that it is a question of flexibility versus inflexibility and according to Brunsson (1985) this question has become more urgent and one reason for that is the rapid change in for instance software applications. Based on findings from Johansson (2004a), it is suggested that the final decision in a sourcing decision to a high extent is dependent on the decision-maker’s assumption about how different sourcing options provide their organisation with capability advantage. I would say that the final decision on which sourcing option to be used is influenced by how decision-makers apprehend different options possibility to increase organisational capability from its usage of software applications.

The need to increase software applications capability influences the start to some extent. The increase of capability increases as an influencing factor during the process and it becomes more and more important and it influences the final decision to a higher extent. One reason for this is that the decision-makers do not emphasise the capability factor in the beginning of the process. There are two reasons for this: the first is that the decision-makers do not have the control over the actual situation at the beginning of the process, which means that they have a hard time to evaluate existing capability at the start of the sourcing decision-making process. The second is that decision-makers during the process become more proactive in their decision-making. At the start of the process the process is more reactive in the way that decision-makers react on the situation and see it as necessary to do something. During the sourcing decision-making process this change and at the end of the process decision-makers is more proactive in the way that they want to decide on a
solution that would make the organisation more competitive and increasing capability in the organisation becomes an even more important factor.

The analysis of why and how capability affects the start of sourcing decisions can be summed up into the following propositions:

**Proposition 3a:** An organisation starts a sourcing decision because it needs to increase software applications capability and its decision-makers see reorganising hosting as necessary in order to achieve that.

**Proposition 3b:** An organisation starts a sourcing decision since its decision-makers see a change from a decentralised hosting to a centralised hosting as one way of increasing software applications capability.

**Proposition 3c:** The influence capability has on sourcing decisions changes during the process, and it seems as if this influence increases during the process.

Capability can also be said to have a close relationship with costs, which are the next factors that will be discussed when it comes to the start of a sourcing decision.

### 8.1.4 Why and How Cost Affects the Start of Sourcing Decisions

**Proposition 4:** A sourcing decision process may start because organisations need to decrease the costs involved in hosting of software applications.

During the interviews with decision-makers in both MeLo and the municipality, they raised the necessity to decrease software application costs. The municipality’s CIO also raised the question of controlling the costs so that it would not increase further in the future. This is also supported by the municipality’s CEO, who says:

*We need to control our costs regarding software applications otherwise the tax citizens have to pay will reach a level that is impossible.*

This indicates that cost as a reason for why the sourcing decision-making process started in the municipality can be described in two ways: First, the municipality needed to decrease its costs, and second, the municipality needed to increase the control over its software applications costs. The need to increase control and its relation to initiation of a sourcing decision were discussed in Section 8.1.1. In the municipality the costs for software applications have increased a lot. The municipality’s CIO cannot say how much costs have increased, but he states that costs have increased a lot. The reason for why he
cannot say how much costs have increased is because the municipality does not have a clear picture of its entire costs for software applications. That the municipality lacks control over its software applications costs is described by the municipality’s CEO in the following way:

*The highly decentralised structure of the municipality has resulted in that costs of software applications are handled by each and every office in the municipality. The result from this has been that each and every office has a clear picture of its own costs. But, when it comes to the total costs of software applications nobody can say how much it is.*

The first impression from the statement made by the CEO is that it should not be so hard to just sum up each office’s software application costs and thereby have the total picture. There are at least two reasons for why it not is that easy. The first is that the urban office has the responsibility for the municipality’s ICT infrastructure and they have money for doing that from the municipality’s total budget. The different offices then pay a fee for some services received from the urban office but they do not pay for all of the services. The second reason is that since the different offices have their own budget of software application costs, they treat them in different ways, which make it more or less impossible to compare to each other, but also hard to categorise the costs into different types of costs.

As described above, I would say that lack of cost control can certainly be described as weak governance, and compared to the discussion in Section 8.1.1, in the municipality regarding the ICT infrastructure and can thereby be related to a need to decrease costs. The different offices receive a total budget of money that they then fully control. This weak governance can also be seen as a reason for the increase of costs. One example how the weak governance can make the cost increase in an uncontrolled way was the decision in the municipality of implementing the scanning software as described in Section 7.2.1. The scanning software investment showed clearly how investments indirectly can impact the total costs at other offices.

From this it can be suggested that organisations start a sourcing decision because the decision-makers apprehend reorganisation as a possibility to control costs and thereby decrease the costs of software applications hosting. It can also be suggested that the need for decreasing costs or a perceived need for decreasing costs is described as an important factor for the start of a sourcing
decision process and this is clearly described during the interviews at the municipality as well as in MeLo.

Cost is a factor that is emphasised a lot in sourcing decision literature (Barthélemy, 2003b; Gilley & Rasheed, 2000; Levina & Ross, 2003; Yaklef, 1997). The findings in this thesis suggest that cost as a factor involved in a sourcing decision-making process is used as a justifying factor and can thereby be likened with the usage of core competence in sourcing decisions. It is found that cost is used as a justifying factor for the start as well as for the final decision outcome. However, it can be said that cost control and having predictable costs is an important factor for the start, but this is related to the factor control and the need to control software applications costs. Cost as a factor in sourcing decision should be understood as a need or desire to decrease costs. The thesis support that the start is only partly influenced by a need to decrease costs. It can be suggested that the decrease of costs as an influencing factor decreases during the process and at the end of the process decrease of costs is not a factor that heavily influences the final decision.

The analysis of why and how cost affects the start of sourcing decisions can be summed up into the following propositions:

Proposition 4a: Costs can be a more influential factor for the start of a sourcing decision in a reactive organisation than in a proactive organisation.

Proposition 4b: If a sourcing decision is started from top management in an organisation the most powerful decision-makers emphasise costs and attempts to decrease costs as influential factors.

Proposition 4c: The need for decreasing costs is often used as a justifying factor for the start of a sourcing decision.

Proposition 4d: The need for decreasing costs is often not that decisive at the end of a sourcing decision-making process and it can be proposed that decreasing costs is often used as a justifying factor for the final decision.

The next factor to be discussed how it affects the start of sourcing decisions is an organisations overall strategy.

8.1.5 Why and How Strategy Affects the Start of Sourcing Decisions

Proposition 5: A sourcing decision process may start because a “new” strategy for the organisation demands that.
The start of the sourcing decision in MeLo can be described to a great extent as a start from a change in strategy. The sourcing decision started shortly after the employment of a new CEO at MeLo. He influenced the start of a reorganisation and a change of the entire structure of MeLo in 2001. The sourcing decision process was then part of the EffectIT program that was started in 2002. This program has a clear connection to a new strategy for MeLo and this new strategy was a result of directives from MeLo’s CEO. However, the question could be if the strategy has any direction for how specific issues such as hosting should be done. It can be suggested by looking at the new organisation chart (Figure 7-1, p. 143) and compare that to the earlier chart (Figure 7-3, p. 146) that ICT has a more emphasised role in the organisation after the reorganisation. Despite this the decision was to outsource hosting of software applications. This could be seen as a contradiction to have more control but in my view it is in line with the attempt of having more control. The reason for this is that outsourcing with well defined service level agreements (SLAs) definitely could be seen as having a well defined control over both cost and development of software applications. This is also emphasised by statements from both the IT manager as well as the Chief controller at MeLo, who argues that the hosting solution with the highest level of control is outsourcing. The strategy, that the new CEO implemented, aimed at increasing the level of control. The control of software applications had before been a problematic issue. The reason for that was according to MeLo’s IT manager that the structure of MeLo, where work tasks related to software applications, was spread out at different departments. Since work tasks regarding development, maintenance and hosting of software applications was spread out at different department, MeLo’s CEO had to inform or be informed by 18 different people to have a total picture of progress of software applications. By reorganising MeLo and change the role and responsibility regarding software applications, the CEO in the future could more or less have all information from one person. It that way the start of MeLo’s sourcing decision can be seen as an attempt of going from a decentralised structure to a more centralised structure. In this way the sourcing decision at MeLo can be compared to the municipality’s sourcing decision process.

As indicated earlier, the municipality’s sourcing decision can be seen as a change of strategy regarding the direction of decentralisation in the municipality. However, it differs from the sourcing decision in MeLo in the way that it is not that clear that it started from a change in the municipality’s
overall strategy. The reason for not being that clear is that the decision process was not started from a change in the entire municipality. Anyhow, it can be described as a change in strategy for how the municipality wanted to organise its hosting in the future. One reason described by the municipality’s CIO is that the sourcing decision process started because the municipality needed to prepare for being able to provide more services in the direction of becoming more of an e-government. The CIO describes coordination of hosting as the only way to be able to increase services as an e-government, and thereby increase citizens’ possibility to use ICT in their interaction with the municipality. The argument of becoming more of an e-government can be said is a change in the municipality’s overall strategy. This means that a sourcing decision can be seen as part of strategic decisions aiming at changing the strategy for the organisation.

According to De Looff (1997) a sourcing decision impacts the organisation on a long-term, and decisions that impact on a long-term are strategic decisions. If so, sourcing decisions regarding hosting could be clearly described as strategic decisions. Strategic decisions are hard to make according to Hickson et al. (1986), and one reason for that is that strategic decisions address complex problems. Another reason is the involvement in the decision and Hickson et al. describe it as the more involved in the decision-making, the more complex the problems become. The CIO in the municipality says that a strategic decision sometimes must be based on the decision-maker’s thoughts about how issues should be done and thereby decided from a personal vision. The reason he gives for this is that it is not possible to make this kind of decision so that everybody are satisfied. He also states that it is not possible to make such decisions in a big group of decision-makers, and if trying to do so there will be so many different opinions expressed that it will not be possible to decide in any direction. This means however, according to the CIO, that the decision-maker who will make the decision should ask for advices from many and then decide based on the advices given. It also means that when the decision is taken, it is extremely important for the decision-maker to tell what decisions that have been taken and what these decisions mean.

An organisation’s strategy can focus on different directions. This means that strategy can influence the start in different directions, and it can be proposed that a change in the organisation’s strategy influence the start of a sourcing decision-making process. This means that hosting and how hosting is made is
dependent on what strategy the organisation has and the direction of that strategy. An organisation’s strategy can also influence why the decision-making process starts as well as the final decision in a sourcing decision. Strategy for an organisation heavily influences the organisations structure and if the organisation will aim at having centralised or decentralised hosting. Centralisation and decentralisation is connected to governance and it could be as described by Weill and Ross (2005), either centralised, decentralised or hybrid governance. These different directions are then connected to control in different ways. Control is a factor that heavily influences the start, and this means that a change from a decentralised structure is a factor that heavily influences the start of a sourcing decision-making process. It can be concluded that a too decentralised structure of hosting influences the start and that the start thereby can be seen as a change in strategy.

The analysis of why and how strategy affects the start of sourcing decisions can be summed up into the following propositions:

**Proposition 5a:** The start of a sourcing decision-making process can be influenced by a change in the direction of the organisation’s overall strategy.

**Proposition 5b:** The strategy of an organisation can influence the direction of a sourcing decision-making process in different directions.

**Proposition 5c:** Strategy can be said to have more influence on the final outcome of a sourcing decision process than it has on the start of a sourcing decision.

The discussion so far and the propositions described above indicate that there are relations between why factors, which will be described in Section 8.3.1. Before doing that, the next section will discuss how sourcing decisions are made.

### 8.2 How are Sourcing Decisions Made

This section builds on the four propositions presented in Chapter 6, which make suggestions about how sourcing decisions are made. These are developed from the following four assumptions: Sourcing decisions are irrational, sourcing decisions aims at organisational action, sourcing decisions aims at a beforehand decided outcome, and sourcing decisions are impacted by thoughts from a specific decision-maker. In Chapter 6 these assumptions were discussed in more theoretical depth, and that discussion resulted in four propositions
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regarding how sourcing decisions are made. This section will analyse the propositions, presented in Chapter 6, about how sourcing decisions are made using the empirical findings presented in Chapter 7. The aim of this section is to present developed propositions of how sourcing decisions are made. The first proposition to discuss is about sourcing decisions and irrationality.

8.2.1 Sourcing Decisions are made as Irrational Decisions

Proposition 6: A sourcing decision process can be described as an irrational decision-making process.

I would suggest that a sourcing decision to a great extent can be explained as an irrational decision-making process. First, in my view it is not possible to do an investigation of all possible options; neither do I see it as necessary. The second step would then be to consider consequences to all these options, neither this are possible or seen as necessary by the decision-makers. And the final step before the final choice is to evaluate all options, which also this is impossible and probably not something that pay the effort. The findings in the empirical data support this to a great extent, where for instance the sourcing decision process in the municipality is an example of a sourcing decision that was made without investigating all options.

The question is if it is possible to more clearly describe if the decision is rational or irrational? One way of doing so is to investigate how many and which alternatives that were discussed. A sourcing decision can also be described as rational versus irrational from the timing when the final alternative was chosen. This means that if the sourcing decision should be seen as rational, the different alternatives should be treated in the same way, and it should be clear that the final alternative not already was chosen before the final choice was made. This means that by looking at how alternatives are presented and when the alternatives are presented in the decision-making process, the process can be described as either rational or irrational.

The retrospective study of the decision-making process in the municipality shows that the final decision was heavily influenced by the initial search. The investigation at the municipality was directed to investigate other municipalities that had restructuring their hosting. The chosen municipalities for this investigation were municipalities that had restructured their hosting and kept that internal, which is in line with the result of the decision-making process in the municipality. The question is if the result was influenced from
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the initial investigation or if the initial investigation was influenced by the
decision-makers thoughts about the final results. From the investigation it can
be suggested that the options chosen for the initial investigation were chosen
from the decision-maker’s idea of how the municipality should organise its
hosting in the future. It can be proposed that the result of the decision-making
process thereby already at the start of the process was decided on. The choice
of comparison cases in the municipality is in line with the idea of providing the
decision-making process with reference data as described by Brunsson (1985).
It can also be likened with the idea of increasing commitment of the decision as
also described by Brunsson (1985). By doing in this way the commitment of
the decision-making process as well as the commitment of the final decision
was increased. This can be seen as a clear direction from the CIO of the
municipality and during the interviews with him as well as with others involved
in the process, they emphasised a lot the importance of having high
commitment. The interviews also describe the municipality’s CIO as a
decision-maker good at increasing commitment during a decision-making
process. This meant that the decision was taken without any dispute in the
municipal council. Among the civilian servants in the municipality it is seen as
very impressive to be able to conduct a decision-making process that ends up
with this result. The choice of reference cases in the beginning of the decision-
making was probably one reason for why this was possible. It can be proposed
that the choice was done with the purpose of having commitment in order to
have organisational action to happen. Another reason for why the final decision
was taken without dispute can be that the knowledge about different sourcing
options and how hosting of software applications can be done was limited in
the municipal council.

To be able to describe and explain a decision-making process in an
organisation a specific question about who handles the decision-making has
according to Miller et al. (2002) to be answered. In the municipality the person
that has been most influential in the process is the CIO. When he was asked to
describe the process he described the process as not being rational. The
question could then be what this statement means. By describing the process as
not rational the CIO stated that the result was not decided on in advance. He
also describes the process as not being decided in advance how it should be
done. Instead he says that the action taken in the process was decided on in the
on-going process.
De Looff (1995) suggests that sourcing decisions often lack a systematic analysis in the early stages of the process. The investigation of the sourcing decision in the municipality did not show that. When analysing the municipality’s sourcing decision-making process it can described as done in a systematic way and the different steps of the process has been spelled out clearly. This is in conflict with how the municipality’s CIO describes the process. I would say that some options have been dismissed without a thorough investigation. The reason for this is probably some pre-understanding the decision-maker had of that sourcing option or lack of understanding of what that option stands for. It can be proposed that in a decision-making process of this kind there has to be some decisions made without making to much effort in investigation of all possible solutions. The difficult question is to decide on when an option is investigated enough to dismiss it. In the municipality case one assumption is that the outsourcing option was dismissed a little too early. It can be argued that the outsourcing option already from the beginning was dismissed. This can be related to Simon (1960), who states that the order in which the environment will be scanned for information to a substantial extent impact the decision that will be taken.

In the municipality there have been questions about outsourcing at different stages during the process. However, the main impression is that outsourcing has not been investigated in a rational way. Not investigating relevant options is something that according to Brunsson (1985) is very typical for decision-making in organisation and in particular when the decision is of a strategic character, and this way of making decisions is what he labels irrational decision-making. In the municipality outsourcing has been suggested as a way of delivering the services and there have been questions about outsourcing. These questions have been made from persons involved in the decision-making process. However, there are indications from some of the interviewees that it has not been appreciated when raising such questions. The impression they have is that it was allowed to ask questions but the attention the questions got was very low. In that way the decision process can be compared to statements about power and politics that for instance Pettigrew (1973) describes. It can also be related to the authority (Simon, 1997) of decision-makers and the power relation between the involved in the decision-making process.

Brunsson (1985) states an irrational decision-making process is to prefer if one seeks to have action rationality in the organisation as a result of the decision
taken. This can to a great extent explain and justify the decision-making process in the municipality. The process can be described as irrational when using characteristics such as time, evaluation of alternatives and when comparing the alternatives at the end of the process with alternative actions suggested at the start of the process. There are statements from the interviewees saying that: it took too long time, all alternatives were not evaluated enough, and it was already stated at the start of the process what the outcomes would be. These statements made by the participants in the decision-making process, show that the municipality’s sourcing decision process clearly can be described as an irrational decision-making process. Using Brunsson (1985) description of organisational action evaluating the process, it can be argued that the aim of the process was to have some action in the form of restructuring how hosting of software applications was organised.

The thesis shows that a sourcing decision-making process can be described as an irrational decision-making process. One of the most dominant characteristics of irrational decision-making is that it starts from an anticipated outcome, which was the case in both MeLo’s as well as the municipality’s sourcing decisions. Commitment on the decisions outcome is important to have in a sourcing decision and to have an irrational decision-making process is preferred from the decision-makers point of view. It could also be proposed that decision-makers see an irrational decision-making process as the best way to make complex decisions that aims at ending at a desired outcome.

The analysis of irrationality in sourcing decisions can be summed up into the following proposition about how sourcing decisions are made:

Proposition 6a: A sourcing decision process can be described as an irrational decision process since it often starts from an anticipated outcome.

Proposition 6b: One reason why a sourcing decision-making process is made as an irrational decision process is that decision-makers see that as a way of increasing commitment.

It can be proposed that the intention of both MeLo as well as the municipality’s sourcing decision-making process was to have organisational action to happen after the decision were taken. The way sourcing decisions are influenced by the aim of having organisational action is discussed in the next section.
8.2.2 Sourcing Decisions Aims at Organisational Action

**Proposition 7:** A sourcing decision process is made with the aim of having organisational action to happen after the decision is made.

It can be proposed that at the start of the sourcing decision in the municipality, the suggestion was seen as something that disturbed the principles of decentralisation. This is clearly shown in the report from the consultant. In the consultancy report he states that:

*There is a very strong scepticism letting someone outside the offices manage hosting and maintenance of software applications and servers.*

This statement shows that there exists confusion between hosting and maintenance. The expressed motive for the scepticism about external provision is that an external partner could not be knowledgeable enough. What the respondents express to the consultant is that development and acquirement must be done by internal employees at each office. This shows that other offices are seen as outsiders, but also that the respondents mix up hosting, maintenance and development. It is possible to state that though the question from the beginning was to investigate if hosting of software applications could be coordinated among the different offices, this confusion made it hard to make the decision. This also decreases the possibility of having commitment and thereby it decreases the possibility to have appropriate organisational action happens as a result from the sourcing decision-making process.

The question is how the municipality dealt with this difficulty. It can be said that had the suggested alternative been the alternative the consultancy suggested as the solution for the future, there had been a great mass of resistance, both among the political units as well as among the administrative units. The commitment of the suggestion of reorganise hosting by coordinating hosting to a centralised data centre was extremely low at the start of the process. According to Brunsson (1985), high commitment from the people who are affected by the decision is needed if the decision should result in organisational action. The importance of commitment and what it is that affects commitment was discussed in Section 6.1.2 and shown in Figure 6-1, p. 121. To increase commitment the municipality’s CIO decided to start the sourcing decision project. He did so from the opinion that it would increase commitment of the necessary changes of the structure of the municipality’s hosting of
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software applications and thereby improve the possibility at having appropriate organisational action to happen.

Despite the fact that commitment was weak there was during the time for the start of the sourcing decision consensus among the involved parties that something had to be done. The leader of ICT development at the department of school and childcare in the municipality describes it in the following way:

There was a consensus in the group of the sub-project leaders that a coordination of hosting is necessary and the reason for that would I say is that the different offices has to cooperate in order to meet the increasing demands for delivering services 24 hours 7 days a week.

However, in the group there was not a consensus about how to actually implement the needed change. The department of social welfare’s IT manager at the municipality describes this by stating that:

When we started to discuss coordination it was only hosting and commonly used software applications that should be hosted at the same place that were discussed. What happened was that the coordination as such also started to involve maintenance and it became apparent that there existed different thoughts about what hosting as well as maintenance is. The project thereby changed direction from being a project of hosting of commonly used software applications to be a project that aims at coordinating hosting of the entire collection of software applications and also includes in my view a considerable part of the maintenance work.

The difficulties described above of the direction of the project were also shown in the interviews with representatives in the steering committee. During the interview with one of the representatives from the steering committee in the municipality’s sourcing decision project it was stated that the role of being somebody who was supposed to make judgements about the project as such has not been an easy task. The reason given for this statement was the amount of information. This can be compared to the modes about uncertainty (Hatch, 1997) that were presented in Table 6-2, p. 122. Uncertainty has, as described by Hatch (1997), a close connection to the amount of information. During the interviews, it was found among especially the steering committee that they found it hard to judge if the project was on the right track or not since it was so much information to be acquainted with. On the other side they asked for more
information about different alternatives. This was not fulfilled and my interpretation of that is that the municipality’s CIO had the opinion that if there had been more information about different alternatives this had probably increased the uncertainty instead of decreasing it. This can be described as an information overload as well as a need for new or more information at the same time. My interpretation of that the municipality’s CIO restricted the information, both the amount as well as what the information was about, is supported by the following statement from the municipality’s CIO:

*Outsourcing was not relevant to investigate, since the political unit not raised the question of outsourcing.*

This statement shows that because the CIO had the impression that outsourcing was not seen as a solution that the politicians wanted to have, it was not raised. The CIO supports his decision, of not investigating outsourcing, by stating that the politicians did not asked for an investigation of outsourcing. This to some extent differs from the start of the sourcing decision though the start was heavily influenced by the administrative unit. The statement by the municipality’s CIO is also divergent to a statement made by the CEO at the municipality that said:

*Outsourcing was not an option and the reason for that is that I do not think any administrative office or anyone working as a civilian servant at the municipality see outsourcing as a feasible option.*

The above can be explained by using Brunsson’s (1985) description of a changeable versus a changeful organisation. It can be stated that software applications’ evolution has made that organisations have to change from being a changeable organisation to becoming more of a changeful organisation. This is especially important for political organisations such as the municipality. To become a changeful organisation, it has to conduct its decision processes in a way that organisational action happens. One way of doing that is to conduct a sourcing decision process as an irrational decision-making process. The sourcing decision process in the municipality started as a rationalistic process. This was found not to be a successful way, and the process therefore adopted an impressionistic method for the sourcing decision. This meant that the process took longer time than it would have done otherwise. It also meant that the process focused a lot on the existing situation and evaluated alternatives, despite the fact that the alternative the process as such aimed for already was decide on. The main reason for doing this was the low motivation and the low
commitment of the suggested alternative at the start of the sourcing decision process.

I would say that uncertainty regarding the effects of a decision plays an important role when discussing organisational action. In Figure 6-1, p. 121 it is suggested that uncertainty influences motivation which then influences commitment of decisions. There was a high level of uncertainty in the municipality before the sourcing decision as well as during the process but also to some degree after the decision. The high level of uncertainty before the start of the sourcing decision project can be related to a discussion about different ideologies in political organisations. Brunsson (1985) discusses the difficulties with different ideologies in politically run organisations. He states that quite often there are different ideologies between the political unit and the administrative unit. According to the municipality’s CEO, CIO and the municipal commissioner this is not the case in the municipality, instead, the ideology of these different parties, the political unit and the administrative unit, is more or less the same. This means that as long as decisions are proposed and taken that not disturb the ideologies the decisions are accepted. But, if there are decisions proposed that disturbs the ideology the harmony is also disturbed. Brunsson describes these decisions as the hardest to get motivation for and thereby the hardest to get commitment on. It can be said that the intended result from the sourcing decision disturbed the ideology of decentralisation and therefore was it critical how the sourcing decision-making process was done in the municipality.

Having appropriate organisational action is seen as very important in a sourcing decision. This relates to the characteristics of the decision process and why the decision can be described as irrational. It can be said that sourcing decisions aim at having organisational action after the process but it can also be said aiming at organisational action during the process. This means that the process is allowed to take some time and the purpose of this is to increase the level of control of the organisational action during the process as well as the action resulting from the decision in the organisation but also to increase commitment on the final decision.

The analysis of organisational action in sourcing decisions can be summed up into the following propositions about how sourcing decisions are made:
Proposition 7a: The importance of having commitment on the final decision in sourcing decisions can be described as a reason why sourcing decisions are allowed to take longer time than necessary.

Proposition 7b: A sourcing decision process needs to focus on having commitment so that appropriate organisational action happens as a result of the decision process.

Proposition 7c: Decision-makers in sourcing decisions want appropriate organisational action to happen during the decision process and therefore the focus is on reducing uncertainty and increasing commitment in the process.

Proposition 7d: Decision-makers in sourcing decisions want appropriate organisational action to happen as a result from the decision process and therefore the focus is on increasing commitment in the process and on the final decision in a sourcing decision-making process.

It can be proposed that the sourcing decision in the municipality as well as in MeLo aimed at a beforehand decided outcome which will be discussed next.

8.2.3 Sourcing Decisions Aims at a Beforehand Decided Outcome

Proposition 8: A sourcing decision process is maybe influenced by a beforehand decided outcome.

It can be proposed from the analyses of MeLo’s sourcing decision that already before the process started it was more or less decided that MeLo should outsource its hosting. This is shown by the timing of the development of the business case, which aimed at describing if outsourcing was a better way than keeping it internally. It is clearly shown in for instance the report that the development of invitation of tender was started before the business case was discussed in MeLo. The question is why the decision-makers in the sourcing project did so. It can be suggested that one reason for doing so was maybe to decrease the time for the decision process. It could also be described as an attempt at increasing commitment of a decision that already was taken. I would suggest that the sourcing decision process in MeLo and also in the municipality aimed at increasing commitment and thereby the possibility to have appropriate organisational action as described in Section 8.2.2, and the reason for that was that the decision-making process aimed at a beforehand decided outcome.

It can be said that in both the municipality and in MeLo the final decision was more or less made at the start of the sourcing decision. The reason for
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presenting a business case as MeLo did could be described as what Brunsson (1985) describes as the usage of reference cases. According to Brunsson, a reference case can be used in a decision-making process to support an already decided outcome. The business case in MeLo and the time for when this was done stipulates that it was a reference case that aimed at supporting the taken decision. In the municipality reference cases were used in the same way. The municipality’s CIO presented as support for the decision municipalities that had decided on internal hosting of their software applications. There were no municipalities described that had made the choice of outsourcing. Despite the fact, as stated by Yaklef (1997), that in the Swedish public sector already in 1991 around 40 per cent of governmental organisations utilized some form of outsourcing. The selection of alternatives to be chosen between at the end of the process in the municipality is also interesting. At the end of the sourcing decision there were two alternatives presented for the municipal council to decide between, where one of the alternative was to do nothing which was seen as not doable from the very beginning of the sourcing decision process. Despite that doing nothing was suggested as an alternative at the end of the process and the reason was probably strictly to increase commitment of the other alternative. This discussion describes sourcing decisions process as influenced from the wanted outcome of the decision, which indicate that there are relations between desired outcome, the start of a sourcing decision and the sourcing decision process as such, which will be described in more detail in Section 8.3.3.

I would suggest that a beforehand decided outcome influences the sourcing decision-making process and how that process is made. This is suggested from the analysis of MeLo’s and the municipality’s sourcing decision-making process in which its is shown that a decision-maker or decision-makers more or less have decided what the final outcome would be at the start of the process. It also influences the factors that are given for why the sourcing decision-making process is started as well as what alternatives that are investigated. Besides that the beforehand decided outcome influences the final decision, it also influences what alternatives that are presented for selection in the final decision.

The analysis of beforehand decided outcome in sourcing decisions can be summed up into the following proposition about how sourcing decisions are made:
Proposition 8a: A sourcing decision process can be said to aim at reaching a beforehand decided outcome.

Proposition 8b: A sourcing decision process and how the process is conducted can be said to be influenced by a beforehand decided outcome.

Proposition 8c: A sourcing decision process that aims at a beforehand decided outcome influences the factors given for why the sourcing decision were started as well as factors given for outcomes of decisions during the process.

However, it can also be suggested that how sourcing decisions are made is influenced by thoughts from a specific decision-maker or decision-makers and the view these have on different sourcing options. This is discussed in the next section.

8.2.4 Sourcing Decisions are impacted by Thoughts from a Specific Decision-Maker

Proposition 9: A sourcing decision process is maybe influenced by thoughts a specific decision-maker has on how the sourcing should be done.

In the municipality the administrative office responsible for the specific decision, after preparing the alternatives to choose between, presents and suggests how the next instance should decide. This means that an administrative unit tries to have a so good foundation for their suggestion as possible. It is seen as desirable if the suggested solution is decided on without any objections from the deciding authority. This was something that several of the interviewees in the municipality and especial the CIO of the municipality raised several times during the interviews. Therefore it could be asked who it actually is who makes the decision? From the steering committee’s view, it was argued that they actually decided on how the further investigation should be directed. However, representatives from that group said that:

We were only served one suggestion and it was not popular to question that solution.

This shows the impact a specific decision-maker can have by using the power that comes from being a person at a certain hierarchical level in an organisation. It also shows that a specific decision-maker’s idea of how the hosting should be made impacts suggestions from alternative voices. The impact of decision-maker’s thoughts is also shown in the sourcing decision made in MeLo. In MeLo’s sourcing decision the decision-makers personal idea
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reflects the chosen solution. It could be asked if this is a reconstruction of the already taken decision and a way of justifying why they decided as they did or not. I would suggest that the decision-makers’ ideologies, guiding the decision in a specific direction, were there before these decisions were taken. It can also be proposed that the specific ideology builds on earlier experience to a great extent.

If a specific decision-maker heavily influences a decision, it could result in conflicts between different parties. The description of conflicts made by March and Simon (1958) can be used to describe the sourcing decision-making process in the municipality. The municipality consists as described in Chapter 7 of several different offices. Conflicts then typically can arise as three classes according to March and Simon, conflicts between individuals, conflicts between organisations, and conflicts between individuals from different groups in the same organisation. In the decision-making process at the municipality all three can be said were present or had a chance of being present. The question is then how this was reflected in the process and how it impacted the decision. One suggestion that can be made is that the time for the decision-making process has been exceeded because of the risks of arriving at a conflicting result. It can also be suggested that the decision-making process has dealt with the risk of conflicts by involving a lot of people in the decision.

Another question is if total non-appearance of conflicts is the best to have. I would say no, based on the idea that some conflicts are good to have in order to increase innovative thinking in a decision-making process. In the municipality’s decision-making process there were some conflicts despite the fact that there were no objections against the outcome of the final decision. This was described by the CEO at the urban office in the following way:

*Of course there have been some disagreements but these have been discussed and then there has been agreement on how to decide.*

The same is described by the municipality’s CIO. From this it can be proposed that there have been occasions with disagreements among the participants in the municipality’s decision-making process. It can also be proposed that these disagreements have not been managed in the best way. An example of this is described in the interview with one of the representatives in the steering committee. That representative said that it was not popular to question the action taken and how the sourcing decision-making process was managed. The process as such was described as open for questions and suggestions for
different actions. But when questions were asked, they were refused by not
getting any attention from the leading decision-makers in the project. The same
is emphasised by one of the sub-project leader who says:

_It was useless to question some decisions since it already was decided
how to do things and it was not worth the problem that could be the fact
of doing that._

These statements indicate to a high extent that the final decision already at the
start of the sourcing decision in the municipality was decided on. It also shows
how the power and politics among decision-makers influenced the sourcing
decision process and its result.

Also in MeLo’s sourcing decision-making process there were some conflicts.
The final report described that some of the members of EffectIT’s steering
committee acted in what could be seen as self-interest. It was also so that
responsible executives at different units in MeLo tried to affect the project and
wanted to have specific solutions for their applications. This was also to some
extent seen in the municipality’s sourcing decision, where the CIO at the
municipality described it in the following way:

_There were not so much objections against moving the hosting part as
long as it did involve someone else. When it then comes to a discussion of
moving the resources in that specific office there were objections._

This describes to a high extent the difficulties in deciding on something that is
against self-interest and it indicates that there is a level of self-interest in the
decisions outcomes. In the municipality, it was the urban office that started the
decision and since the new unit that would take care of the hosting was
supposed to be governed and operated by the urban office, the self-interest is to
some extent obvious. Self-interest can be compared to the discussion about
how experts influence decisions as described by Pettigrew (1973), and it could
be asked how experts influenced the decisions made in MeLo and in the
municipality.

In MeLo there was a consultant involved in the sourcing decision. The
consultant came from an organisation acting as a supplier organisation in the
outsourcing business. It was found that the consultant described a lot of
benefits for outsourcing and hardly any drawbacks or risks from outsourcing.
In the municipality the CIO can be said to be acting as the expert in the
sourcing decision. He was employed based on the assumption that he had a lot
of expertise in how to organise ICT in an organisation. It was also the CIO that directed the sourcing process and therefore the influence from him and thereby the role of expertise was high also in the municipality’s sourcing decision-making process. Expertise is impacted by power according to Pettigrew (1973) and power is heavily related to knowledge. It can be assumed that the power from the expertise by having access to information and thereby being knowledgeable directed the outcome to a high extent in both the municipality as well as in MeLo.

I would state that the decision-making process in the municipality is a combination of the rationalistic mode and the impressionistic mode of decision-making that Brunsson (1985) suggests. The process started with clear objectives about both improving the organisations capability as well as decreasing its costs for hosting of software applications. This can be compared to Brunsson’s rationalistic mode. The continuing of the process can be described more as the impressionistic mode, though it changed directions as it focused more on action rationality than decision rationality. This change mainly occurred when the new CIO of the municipality was hired, which can be compared to Brunsson’s discussion of ideologies. It can be stated that the municipality by hiring that specific person also adopted ideologies about how decisions should be made but also what the outcomes of the sourcing decisions should be.

As described above, the outsourcing option in the decision-making process in the municipality has been raised by the interviewees several times. What is interesting is that there has been diversity among the answers on how this has been managed. Some state that it has been investigated early in the process, some state it has been investigated late in the process, some state it have not been investigated at all. Some say that because the politicians did not raise the question of outsourcing that option was not investigated. Others say that the administrative unit did not raise the question of outsourcing, which made that outsourcing was not investigated.

The start as well as the process and the process final outcome are all heavily influenced by a specific decision-maker. This is shown to a great extent in the thesis and the final outcome is more or less decided from the opinions the decision-maker(s) has on how the hosting should be done in the future. The direction of the final outcome can be said depend on if the decision-maker is reactive or proactive in his or hers thoughts.
The analysis of thoughts from a specific decision-maker in sourcing decisions can be summed up into the following propositions about how sourcing decisions are made:

**Proposition 9a:** A sourcing decision-making process and how the process is made are to some extent influenced by thoughts about how the process should be done from a specific decision-maker or from specific decision-makers.

**Proposition 9b:** Top executives in an organisation decide to a high extent on how a sourcing decision process will be made as well as the outcome of the decision by engaging a specific decision-maker in the process.

The discussion so far reveals that a sourcing decision both when it comes to why it is started as well as how the process is made to a great extent is influenced by the decision-makers that head the decision-making process. The next section aims at describing and explaining relations between why and how factors in sourcing decisions.

### 8.3 Relations between Factors in Sourcing Decisions

This section further describes and explains relations between factors involved in sourcing decisions. In Section 8.1 it have been suggested that there are relations between factors influencing why organisations start sourcing decisions, and I would suggest that the factors are more or less related to each other. The same can be said about factors influencing how sourcing decisions are made (Section 8.2). But, it is not clear in what way different factors might influence each other. Neither is it clear under what circumstances the relations exists. There are also relations between why and how factors as well as relations between them and the final outcome of a sourcing decision. This section starts with discussing relations between why factors (Section 8.3.1). It continues with relations between how factors (Section 8.3.2) before it ends with a discussion about relations between why-factors and how-factors in sourcing decisions (Section 8.3.3).

#### 8.3.1 Relations between Factors influencing why Sourcing Decisions are started

Figure 8-2 aims at describing the relation between the investigated factors and should be seen as a result from the analyses of the sourcing decisions investigated in MeLo and the municipality. I would suggest that the need to increase control is the most influential factor for why organisations start a
Chapter 8 – Findings about Why and How Sourcing Decisions are Made

sourcing decision. The increase of control have two different directions: Increase control over software applications costs, and increase control over usage of software applications. As described in Section 8.1.1 one way to increase control can be to strengthen the governance. In a decision-making process, governance is about what decisions a specific decision-maker is allowed to make. This could be described as decision-rights, which is the definition that Weill and Ross (2004) give to governance. This means that ICT governance gives directives for making decisions that increase control as shown in Figure 8-2. It can be suggested that the aim of governance is to give clear and concise decision-rights regarding what decisions a decision-maker can make and is expected to make. It also means that by having a clear direction of decision-rights regarding software applications the organisation has a better possibility to control the costs as well as the usage of software applications. This is supported by findings from MeLo’s and the municipality’s sourcing decision-making process. Decision-makers in both these organisations see it as necessary to increase control of software applications and the way they see how to do that is by strengthen the ICT governance. The way to fulfil this differs between different decision-makers as described in Chapter 7, but in both organisations the results of the sourcing decision-making process have been to centralise hosting. That the solution of how to fulfil the increased control differs between the organisations is in line with the statement made by Weill and Ross (2004) that one type of governance does not fit all, instead it is a question of implementing the “right” governance for that specific organisation.
Figure 8-2 Suggested why factors and their relations to the start of a sourcing decision

The sourcing decision-making process, in MeLo and the municipality, which aimed at centralising hosting of software applications, could be seen as a change in the organisations’ overall strategy. By referring to Figure 5-2, p. 94, it can be argued that a close connection between governance and strategy exist. The argument means that strategy and a change in strategy for an organisation often result in a change of governance. In Figure 8-2, p. 252 strategy is described as acting as input to governance. In MeLo the governance structure changed when the organisation was restructured and this can be seen as a change in strategy. When MeLo recruited a new CEO this could also be seen as a change in governance. The written strategy did not change, but the way the strategy was supposed to be fulfilled changed. The result of this change was the start of the sourcing decision and that ITIL was implemented at the end of the sourcing decision as a way of improving governance of software applications in MeLo.

The situation was almost the same in the municipality. One difference was that the municipality did not restructure the entire organisation to the same extent. The change in strategy only concerned hosting of software applications in the municipality, and could be described as a strategic change in two directions. The first direction was to prepare for becoming more of an e-government and thereby providing citizens with the possibility to interact with the municipality by usage of ICT. To do that the municipality’s CIO described it as necessary to
increase control and the way he saw how to do that was to centralise hosting. The second direction was to have a “better” resource usage in the municipality and instead of being forced to spend a lot of resources on hosting the CIO wanted to be able to focus more resources on development on software applications that better related to the municipality’s business processes. The municipality’s CIO described the reorganisation of hosting as the first step in creating a “new” structure in the municipality, where more resources in the form of manpower could be used to develop software applications in a proactive way aiming at developing the municipality. This meant that the CIO wanted to have “stronger” ICT governance and he saw centralisation of hosting as more or less the only way to achieve that. I would propose that the more decentralised an organisation is regarding its hosting of software applications; the more important it is to have a “strong” ICT governance. But, this is in conflict with each other since decentralisation of hosting and thereby decentralisation of hosting decisions makes it harder to construct “strong” ICT governance. This is supported by statements made by MeLo’s Chief controller as well as statements made by the CIO at the municipality. They both describe it as necessary to centralise in order to be able to have well developed ICT governance. It can also to a great extent be explained by relating it to the resource-based view and what that theory says about organisation of resources and competitive advantage. From the resource-based view it can be argued that it is not the ownership of resources that make an organisation competitive instead it is how the resources are organised (Kalling, 1999; Mata et al., 1995). This means that it is interesting from an organisational view to control how resources are used and this control of usage could be related to governance.

The formal strategy both in the municipality and in MeLo was not reformulated. However, the sourcing decision-making process could be seen as a change of the organisation’s strategy regarding hosting of software applications and since there is a relation between strategy and governance it can be suggested that the ICT governance were supposed to be changed. This can to a great extent be described or related to the basic thoughts about governance. It could be suggested that if an organisation has well-organised control over the software applications used, in the form of what it is that costs and what the costs are, that could be described as carefully designed governance. Governance could also, as Weill and Ross (2004) describe it, be related to the usage of the software applications. The governance structure differs between MeLo and the municipality to a great extent. This means that
governance influences cost as well as control as factors involved in the start of a sourcing decision. Governance thereby, as shown in Figure 8-2, p. 252 gives directives for control of usage as well as it aims at regulating costs.

In Figure 8-2, p. 252 there is no relationship between control and costs. The reason for that is that control in the figure should be understood as related to both costs and usage. Regarding costs in the figure, the figure emphasises costs as a justifying factor for the start and this is not necessarily connected to control over costs. It can also be argued that governance aims at increasing capability. I would say that the situation is the same for control as well as strategy, in the meaning that these factors directly as well as indirectly influence the start. The indirect influence from control means that decision-makers want to increase control to be able to increase capability. The indirect influence from strategy means that decision-makers want to change the organisations strategy so that the organisations capability is changed in a positive way.

Regarding the findings of factors for why organisations start sourcing decisions, it can be concluded that governance plays an important role. The role it has is to act as input to other factors influencing the start of a sourcing decision. That means that a sourcing decision-making process is started from the attempt of increasing control from the top level in organisations. It can also be concluded that increasing control as a factor for suggesting a change is not a popular factor for those who will be affected by the change. To deal with this dilemma, decision-makers use either cost or core competence as factors to justify why it is necessary for the organisation to start a sourcing decision-making process. In the case of cost, decision-makers state that the organisation needs to decrease its cost for software applications. In the case of core competence the decision-makers state that the reason for the start is a need for the organisation to focus on what they do best. From this, it can be concluded that the five factors suggested have two different roles, influencing or justifying the start of a sourcing decision. The factors: Control, capability and strategy are factors that more or less directly influence the start. While the factors, cost and core competence are factors that are used with the purpose of justifying the start of a sourcing decision.
### 8.3.2 Relations between Factors influencing how Sourcing Decisions are made

In Section 8.2 it is indicated that there are relations between different factors suggested for how sourcing decisions are made. Figure 8-3, p. 255 has the aim of describing these relations further. It can be proposed that sourcing decisions are best described as irrational decision-making. The reason for that can be found in that decision-makers having the highest power in the process see this way of conducting a decision-making process as the best way of having appropriate organisational action from the process. This is to a high extent supported by statements from interviews with decision-makers in MeLo as well as in the municipality. They emphasise the difficult question of having too many involved in a sourcing decision and at the same time give them the feeling that they are involved. From the discussion about how sourcing decisions are made it can be suggested that a specific decision-maker or in some cases a limited number of decision-makers want to have a specific outcome of a sourcing decision. This can be described as that the sourcing decision-making process aims at a beforehand decided outcome. This beforehand decided outcome then influences the action taken by decision-makers. This means for instance that reference cases are chosen with the aim of supporting a wanted outcome.

Figure 8-3 Relations between how factors in sourcing decisions
It can also be stated that a specific decision-maker wants to have some kind of organisational action. Relating that to the final outcome the decision-maker wants that something should happen after the final decision is taken. Therefore decision-makers conduct a sourcing decision-making process in a way that best can be described as an irrational decision-making process. And since irrational decision-making is seen as a way of having organisational action (Brunsson, 1985), there are close connections between, irrational decision-making, a specific decision-maker and organisational action. The history of the organisation and the decisions that have been made in the organisation give an existing structure of how hosting is made in organisations. I would say that existing structure influences the final outcome and it does so by influencing decision-makers in the way that they have this as a base for their thoughts of the final outcome. Existing structures could directly influence the start in the way that decision-makers see it as something has to be done. Another relation between the existing structure and a specific decision-maker is that the decision-maker more or less by deciding on minor decisions, for instance if the organisation should buy or rent a specific software application, gives the direction for the future hosting structure. It can be suggested that decision-makers by making smaller decisions indirectly influence the direction of a major sourcing decision regarding hosting. It can also be described as that decision-makers do not have a specific direction of the future hosting when they make these minor decisions. Independent of whether the decision-maker makes these decisions aiming at a specific direction for the future hosting or not, it can be proposed that the existing structure has a clear direction for how the sourcing decision-making process is made. It can also be proposed that existing hosting structure influences the start as well as the final outcome of a sourcing decision-making process. The next section will describe the relation between why and how factors in more detail and in that way it sums up the analysis of why and how organisations decide on specific sourcing options for hosting of software applications.

8.3.3 Relations between Why and How Factors in Sourcing Decisions

So far this chapter has discussed why organisations start a sourcing decision-making process as well as how a sourcing decision-making process is made. The aim of this section is to describe and explain relations between the start (why), the process (how) and outcomes in sourcing decisions. In Figure 8-4,
two directions for the start of a sourcing decision-making process are described: A proactive direction, and a reactive direction. These directions can be compared to Brunsson’s (1985) description of changeful versus changeable organisations. The reactive direction – the changeable organisation – means that decision-makers in the organisation see it as more or less necessary to change how hosting is done. It can be suggested that decision-makers in changeable organisations start a sourcing decision as a reaction on changes in the environment but only to that degree that it does not become proactive. It can also be suggested that the start is a reaction from necessary changes to make in the existing structure of hosting. The proactive direction – the changeful organisation – means that decision-makers see the change as a way of being proactive. Changes in the environment and existing structure also in this case play an important role.

![Diagram](image)

**Figure 8-4 Relation between why and how factors in sourcing decisions**

In both the changeable and the changeful organisation it can be suggested that the start of a sourcing decision-making process comes from a desired outcome. This desired outcome is grounded in thoughts about the future of the organisation from one or several decision-maker(s). The major inputs to these thoughts are changes in the environment surrounding the organisation as well as existing structure of hosting in the organisation. This means that decision-
makers want to implement the hosting solution that they see as the most beneficial for the organisation.

8.3.3.1 Desired Outcomes Guides Sourcing Decisions

Figure 8-4 describes the desired outcome of a sourcing decision-making process as influential on the final outcome. It can be argued that the desired outcome directs both the start as well as how the process is done. According to Cyert and March (1963) and March and Simon (1958) the order in how the environment is searched to a great extent impact decisions outcomes. This also means that the desired outcome directs the search of the environment. It also means that the search for the environment influences the start. In the municipality one driving force behind starting the sourcing decision-making process was described as a reaction from that other municipalities has reorganised their hosting. Also in MeLo trends in the environment impacted the start and during the time for MeLo’s outsourcing there were hype on outsourcing. The environmental search to a high extent explains the start as well as the outcome of the sourcing decision at the municipality. It can also be proposed that the environmental surroundings influenced the process in MeLo.

In the municipality the decision process was started from a need to change. The change in the municipality that was needed can be described as a need for improving control over software applications usage and development. The first investigation resulted in some directives for centralising hosting as a solution on the problems with control. It also stipulated that the evolution of software applications and the new usage of software applications in the municipality demanded an increase in capability.

The start of a sourcing decision-making process is described as heavily influenced by a need to increase control. This means when it comes to the final outcome – the final decision – that the chosen solution will be the one that the decision-makers see as the solution that provide them with the best control. It also means that if governance is seen as controlling what happens in the organisation, it can be related to the view a specific decision-maker has on control received from different sourcing options. Decision-makers and thereby the organisation’s view of how different sourcing options influence the possibility of having control over its software influences the outcome of a sourcing decision and which specific sourcing option the organisation adopts for that specific software. The decision-makers in MeLo say that the most effective sourcing option from a control perspective is outsourcing. The reason
they give for that is that outsourcing forces the organisation to have control. The CIO at the municipality does not agree on that and says that it is risky with outsourcing because the control can be lost. On the other side he describes it as fully possible in the future to outsource hosting in the municipality. The reason for not doing that at the moment was that the control was too weak in the municipality, which resulted in that outsourcing was not doable. From this the following conclusion can be made: Outsourcing increases control but to do a successful outsourcing there has to be control over assets before they are outsourced.

From the conclusion that outsourcing may increase control it can be stated that the main reason for adopting a specific sourcing option is that the decision-makers have the impression that the chosen option is the option that gives the best possibility to have control. Which sourcing option that then is chosen is dependent on how different options give the one who wants to have control the best possibility to control. This means that if the decision is taken by different decision-makers, the outcomes will probably be different. It could be stated that if the decision for instance is taken by a board of directors, the chosen option is probably an option that is heavily centralised. On the other side, if the decision is taken by an executive at a department, the option is probably more decentralised. This could be described also in that way that an outsourcing decision is probably taken at the highest hierarchical level in the organisation while a decision of handling hosting of software applications internal is probably taken at a lower hierarchical level in the organisation. This can also be compared with the statement from Cronk and Sharp (1995) as well as March (1994) that decisions often are made for fulfilment of self-interest from the decision-maker.

The statement that organisations and their decision-makers not aim at maximising profit in all decisions (Cyert & March, 1963) can explain sourcing decision outcomes to a great extent. It was shown in my earlier study (Johansson, 2004a) that it was not the attempt of decreasing costs that made organisations adopt external service provision. Costs are often described as an important factor in a sourcing decision (Cronk & Sharp, 1995; Lacity & Hirschheim, 1995). The findings in this thesis suggest that increase in software applications capability influences a sourcing decision and the sourcing decision-making process to a higher extent than software applications costs does. That decision-makers emphasise capability could be explained by a focus
on long-run survival and that decision-makers see increase in capability as more important for the organisation than just decrease costs. This explains why some decision-makers do not adopt external service provision despite the fact that it probably in the short-term would decrease the costs. It can be proposed that the need for an increase in capability influences the outcome to a higher extent than a decrease in costs does. This indicates that the outcome is dependent on how the decision-maker judges the possibility to increase capability by a specific sourcing option. It also indicates that decreasing costs are not seen as an important factor at the end of the decision-making process, neither was cost described as an important factor for the start of a sourcing decision. Nevertheless, cost is often suggested as a reason for both the start as well as a reason for the final outcome. I would say that the reason for this is that costs often are used as a justifying factor for the action taken as described in Section 8.3.1.

The cost perspective can be used in at least three different ways when it comes to the outcomes in a sourcing decision. First, it can be used as a clear decision factor where the final choice is to choose the cheapest alternative. Second, it can be used as a factor with the aim of justifying a decision where the choice was made from another factor. And third, it can be used as a factor in the negotiation between different providers of the same services. This means that it is sometimes used as a way of enforcing an internal provider to deliver services as on a competitive market. As shown in the municipality case, the question is not only to decrease costs; instead it is a question of controlling the costs. This means that the cost perspective suggests a need for decreasing cost or having cost control as reasons for starting a reorganisation of hosting. It is found both in the municipality as well as in MeLo that when it comes to the final decision the cost perspective is secondary. This is shown in MeLo by the selection of the two providers for the final negotiation, and in the municipality by the decision not to investigate outsourcing as a hosting option. The findings are supported by the fact that both organisations did not completely investigate if the chosen solution was the cheapest solution. This is very much in line with the results from my earlier study about application service provision (Johansson, 2004a) that described cost as secondary when it comes to choosing provider for external service provision. This suggest that the sourcing option the decision-makers see as having the best cost advantage will be the one that the organisation adopts. It is important to understand and be aware of that I talk about cost advantage. What I mean with cost advantage is that it is not
necessarily the option that is the cheapest one that will be chosen. It could be that an option with a higher fee are chosen and the reason for that is that when the decision-maker talks about the costs they also, in my view, have in mind additional cost that perhaps results from choosing that option. This implies that the cost perspective when it is used as a factor of deciding on which hosting option to adopt is used as for instance the concept of total cost of ownership (TCO) implies. It is also important to say when it comes to cost that the cost perspective probably is used as an argument for that the chosen option was the right option, which means that sometimes additional costs are not presented as they should be. So far sourcing decision-making processes have been explained from the view of desired outcome. The next section discusses how decision-makers conduct the process with the aim of fulfilling the desired outcome.

8.3.3.2 How Desired Outcomes from Sourcing Decisions are fulfilled

As described in Chapter 6, Brunsson (1985) states that the most important requirement for a decision to be implemented and in that way results into organisational action is commitment. Irrational decision-making is according to Brunsson (1985) in favour if one seeks to have organisational action. This can to a great extent both explain and justify the decision-making process in the municipality. The process can be described as irrational from individual decision-maker’s point of view, and they describe the process as: it took too long time, all alternatives were not evaluated enough, and it was already stated at the start of the process what the outcomes would be. These statements have been made by participants in the sourcing decision-making process. From these statements the municipality’s sourcing decision-making process can be described as an irrational decision-making process. The aim of the process was to have some action in the form of restructuring of hosting in the municipality. Using Brunsson’s description of organisational action when describing the process it can be said that this show that the process influenced and increased enthusiasm and commitment. However, this could maybe have been a result even if the sourcing decision-making process had been more rational. Even if Brunsson claims it, it is not totally clear that there is a relationship between irrationality in a decision-making process and action rationality. However, I would say that there is a relationship between commitment and action rationality, but increase of commitment could probably also result from a rational decision-making process.
As reasons for the start of a sourcing decision, it can be suggested that the reason core competence and the reason strategy is closely related to each other. It can be proposed that if the suggested reason for the start is core competence, this is more unclear than if the suggested reason for the start is from the organisation’s overall strategy. The reason for this is that if the starting reason is strategy, the decision involves several decision-makers or it could be found in the organisation’s written strategy. An organisation’s strategy can influence how an organisation structure hosting of software applications and it also influences a sourcing decision-making process and outcome from that process. Strategy can focus on different issues in different organisations which means that for instance in one organisation the strategy can focus on having as low costs as possible, while the strategy in another organisation perhaps focuses on their core competence. If it is core competence, it is more up to the individual decision-maker to judge if hosting is part of the organisation’s core competence or not. This means that it is more up to the individual decision-maker to judge if a sourcing decision-making process should be started or not. In Figure 8-2, p. 252 strategy is described as influencing the start while core competence is said justifying the start. I would say that if core competence is said to be the reason for the start the actual reason is a strategic reason, and core competence is used as a way of justifying the start of the changing process. The factor core competence is more influential if the decision is about how hosting of a specific software application should be done. The reason for starting a investigation of different options is probably more often described as core competence if it is a specific software application, than it is if the investigation is on how hosting of the organisations entire set of software applications should be done. This discussion can be concluded by that there is a connection between strategy and core competence, but also, as described in Chapter 4 that there is a close relation between competence and capability.

Also a need to increase software applications capability could be seen as a reason for why organisations start a sourcing decision. When it comes to capability, it can be argued that capability has a stronger influence on the direction of the final outcome. Software applications capability could be emphasised on for instance accessibility, availability, and security. It can be suggested that the influence capability have increases during the process and that it influences the final choice more than it influences the start. As described in Section 8.1.3, cost is closely related to capability and cost also plays an important role in a sourcing decision-making process. The relation between
costs and capability can be described as a specific sourcing option is chosen because decision-makers see just that specific sourcing option as the one that is most cost efficient. This means that a sourcing decision is started because the pressure on the decision-makers is to decrease costs. During the process, the cost perspective changes from adopting the solution with the lowest cost to becoming more of adoption of the solution that, as described above, provides the organisation with the best cost advantage. In that way capability and costs are closely related to each other when it comes to the final outcome of a sourcing decision. It can be described in the following way: A sourcing decision is started because of the need to decrease costs, and the sourcing option that is seen as the one that provides the organisation with the best cost advantage influences the outcome of a sourcing decision to a high extent, and that option will be the one that is chosen.

### 8.4 Chapter Summary

In the chapter, Section 8.1 and Section 8.2 began with presenting the initial propositions, these propositions were then developed from findings in the investigated sourcing decisions in MeLo and the municipality. Table 8-1 below summarises the developed propositions and suggests which organisation’s sourcing decision-making process that supported respectively developed proposition. In the table some of the propositions are described as having weak support, which means that the proposition only have indirectly support from the empirical data.

<table>
<thead>
<tr>
<th>Proposition 1: A sourcing decision process may start because organisations need to improve control/governance regarding software applications.</th>
<th>Supported by findings from:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Developed propositions:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Proposition 1a:</strong> A sourcing decision start can, independent of whether the start is a top-down or a bottom-up initiative, be described as heavily influenced by control.</td>
<td>MeLo and the municipality</td>
</tr>
<tr>
<td><strong>Proposition 1b:</strong> A sourcing decision start can be described as more focused on having cost control over software applications if the initiative is more top-down.</td>
<td>MeLo</td>
</tr>
<tr>
<td><strong>Proposition 1c:</strong> A sourcing decision start can be described as more influenced by control over software applications costs the more mature an organisation is regarding software application usage.</td>
<td>MeLo</td>
</tr>
<tr>
<td><strong>Proposition 1d:</strong> A sourcing decision start can be described as more influenced by control over software application usage the less mature an organisation is regarding software application usage.</td>
<td>The municipality</td>
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</tbody>
</table>
**Proposition 2:** A sourcing decision process may start because organisations need to focus on core competence.

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<thead>
<tr>
<th>Developed propositions:</th>
<th>Supported by findings from:</th>
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<tbody>
<tr>
<td><strong>Proposition 2a:</strong> The need to focus on core competence is not a factor that seriously influences the start of a sourcing decision regarding hosting of software applications.</td>
<td>MeLo and the municipality</td>
</tr>
<tr>
<td><strong>Proposition 2b:</strong> The need to focus on core competence is to some extent used by decision-makers as a justifying factor why sourcing decisions are started.</td>
<td>The municipality (weak support)</td>
</tr>
<tr>
<td><strong>Proposition 2c:</strong> The need to focus on core competence is to some extent used by decision-makers as a justifying factor why the specific alternative was chosen in the final decision in a sourcing decision.</td>
<td>MeLo (weak support)</td>
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**Proposition 3:** A sourcing decision process may start because organisations need to increase capability gained from software applications usage.

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<tr>
<th>Developed propositions:</th>
<th>Supported by findings from:</th>
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<tr>
<td><strong>Proposition 3a:</strong> An organisation starts a sourcing decision because it needs to increase software applications capability and its decision-makers see reorganising hosting as necessary in order to achieve that.</td>
<td>The municipality</td>
</tr>
<tr>
<td><strong>Proposition 3b:</strong> An organisation starts a sourcing decision since its decision-makers see a change from a decentralised hosting to a centralised hosting as one way of increasing software applications capability.</td>
<td>The municipality</td>
</tr>
<tr>
<td><strong>Proposition 3c:</strong> The influence capability has on sourcing decisions changes during the process, and it seems as if this influence increases during the process.</td>
<td>MeLo</td>
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**Proposition 4:** A sourcing decision process may start because organisations need to decrease the costs involved in hosting of software applications.

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<tr>
<th>Developed propositions:</th>
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<tr>
<td><strong>Proposition 4a:</strong> Costs can be a more influential factor for the start of a sourcing decision in a reactive organisation than in a proactive organisation.</td>
<td>The municipality</td>
</tr>
<tr>
<td><strong>Proposition 4b:</strong> If a sourcing decision is started from top management in an organisation the most powerful decision-makers emphasise costs and attempts to decrease costs as influential factors.</td>
<td>MeLo</td>
</tr>
<tr>
<td><strong>Proposition 4c:</strong> The need for decreasing costs is often used as a justifying factor for the start of a sourcing decision.</td>
<td>MeLo and the municipality</td>
</tr>
<tr>
<td><strong>Proposition 4d:</strong> The need for decreasing costs is often not that decisive at the end of a sourcing decision-making process and it can be proposed that decreasing costs is often used as a justifying factor for the final decision.</td>
<td>MeLo and the municipality</td>
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</tbody>
</table>
### Chapter 8 – Findings about Why and How Sourcing Decisions are Made

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<tr>
<th>Proposition 5: A sourcing decision process may start because a “new” strategy for the organisation demands that.</th>
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<tr>
<td><strong>Developed propositions:</strong></td>
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<tr>
<td>Proposition 5a: The start of a sourcing decision-making process can be influenced by the direction of the organisation’s overall strategy.</td>
</tr>
<tr>
<td>Proposition 5b: The strategy of an organisation can influence the direction of a sourcing decision-making process in different directions.</td>
</tr>
<tr>
<td>Proposition 5c: Strategy can be said to have more influence on the final outcome of a sourcing decision process than it has on the start of a sourcing decision.</td>
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<tr>
<td><strong>Supported by findings from:</strong></td>
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<tr>
<td>MeLo and the municipality</td>
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<td>MeLo (weak support)</td>
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<tr>
<th>Proposition 6: A sourcing decision process can be described as an irrational decision-making process.</th>
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<tr>
<td><strong>Developed propositions:</strong></td>
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<tr>
<td>Proposition 6a: A sourcing decision process can be described as an irrational decision process since it often starts from an anticipated outcome.</td>
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<tr>
<td>Proposition 6b: One reason why a sourcing decision-making process is made as an irrational decision process is that decision-makers see that as a way of increasing commitment.</td>
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<tr>
<td><strong>Supported by findings from:</strong></td>
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<td>MeLo and the municipality</td>
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<td>The municipality (weak support MeLo)</td>
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<tr>
<th>Proposition 7: A sourcing decision process is made with the aim of having organisational action to happen after the decision is made.</th>
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<tr>
<td><strong>Developed propositions:</strong></td>
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<tr>
<td>Proposition 7a: The importance of having commitment on the final decision in sourcing decisions can be described as a reason why sourcing decisions are allowed to take longer time than necessary.</td>
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<tr>
<td>Proposition 7b: A sourcing decision process needs to focus on having commitment so that appropriate organisational action happens as a result of the decision process.</td>
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<tr>
<td>Proposition 7c: Decision-makers in sourcing decisions want appropriate organisational action to happen during the decision process and therefore the focus is on reducing uncertainty and increasing commitment in the process.</td>
</tr>
<tr>
<td>Proposition 7d: Decision-makers in sourcing decisions want appropriate organisational action to happen as a result from the decision process and therefore the focus is on increasing commitment in the process and on the final decision in a sourcing decision-making process.</td>
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<tr>
<td><strong>Supported by findings from:</strong></td>
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<tr>
<td>MeLo and the municipality</td>
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<tr>
<th>Proposition 8: A sourcing decision process is maybe influenced by a beforehand decided outcome.</th>
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<tr>
<td><strong>Developed propositions:</strong></td>
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<tr>
<td><strong>Proposition 8a:</strong> A sourcing decision process can be said to aim at reaching a beforehand decided outcome.</td>
</tr>
<tr>
<td><strong>Proposition 8b:</strong> A sourcing decision process and how the process is conducted can be said to be influenced by a beforehand decided outcome.</td>
</tr>
<tr>
<td><strong>Proposition 8c:</strong> A sourcing decision process that aims at a beforehand decided outcome influences the factors given for why the sourcing decision were started as well as factors given for outcomes of decisions during the process.</td>
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<tr>
<th>Proposition 9: A sourcing decision process is influenced by thoughts a specific decision-maker has on how the sourcing should be done.</th>
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<tr>
<td><strong>Developed propositions:</strong></td>
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<tr>
<td><strong>Proposition 9a:</strong> A sourcing decision-making process and how the process is made are to some extent influenced by thoughts about how the process should be done from a specific decision-maker or from specific decision-makers.</td>
</tr>
<tr>
<td><strong>Proposition 9b:</strong> Top executives in an organisation decide to a high extent on how a sourcing decision process will be made as well as the outcome of the decision by engaging a specific decision-maker in the process.</td>
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From these developed propositions the chapter continues with describing and explaining relations between factors regarding why and how sourcing decisions are made. The result from this is shown in Figure 8-2, p.252, describing relations between why factors, and in Figure 8-3, p. 255, describing relations between how factors, and finally in Figure 8-4, p. 257, describing relations between why and how factors in sourcing decisions. The chapter and the analysis can be concluded in the following way. It can be suggested that the need to increase control is the main reason why MeLo and the municipality started their sourcing decision-making process aiming at reorganising its hosting of software applications. I would say that this need derives from that the organisation has decentralised too much. This decentralisation has resulted in problems with governance of software applications. The start can therefore be seen as a reaction from the existing structure of hosting. This reaction can have at least two different directions: A reactive direction and a proactive direction. In both cases the decision-makers’ desired outcome guides how the decision-making process is made. The fact that the decision-making process
Chapter 8 – Findings about Why and How Sourcing Decisions are Made

aims at beforehand decided outcomes result in a process that can be described as an irrational decision-making process. A major conclusion from the thesis is that during the decision-making process the decision-makers’ focus changes. This is shown in that different factors influence the decision in different directions during the process. The reactive process starts with necessary changes, for instance, that the organisation has to implement a stronger governance structure since they have lost the control over its software applications. This reactive start then changes into a more proactive direction resulting in that capability gained from software applications use becomes more influential at the end of the process. A possible conclusion to draw from this is the maturity level the organisation is at regarding software applications use influences the sourcing decision-making process both why it is started as well as how the process is made. Another conclusion is that how far an organisation has decentralised also influences a sourcing decision-making process. It can be concluded that the more immature and the more decentralised the organisation is the more reactive is the decision-making process. The next chapter, Chapter 9, discusses conclusions and implications from the thesis in more detail.
Chapter 9 – Conclusions and Implications

This final chapter presents conclusions and implications from the thesis, aiming at delivering answers to the primary research question asked in the thesis. It does so by presenting conclusions on the three sub-questions asked: 1) Why do organisations start sourcing decisions? 2) How is sourcing decisions made? And 3) What relations exist between why and how factors in sourcing decisions, and thereby it presents conclusions on the primary research question: Why and how organisations decide on a specific sourcing option for hosting of their software applications. The chapter continues with giving theoretical as well as practical implications developed from the findings in the thesis. It also evaluates the thesis, the research process and its results. Finally some thoughts about future research are discussed.

9.1 Conclusions

The primary research question asked in the thesis was: Why and how organisations decide on specific sourcing options for software applications hosting? This question was broken down into three sub-questions and in this section conclusions on each of these sub-questions are discussed.

9.1.1 Why do Organisations Start Sourcing Decisions?

The first sub-question was: Why do organisations start a sourcing decision?

It is proposed that there is a set of factors that influences the start of a sourcing decision. The thesis shows that the most dominant factor is the need to increase control. It can be said that desired control, described as ICT governance, from the top executives in the organisation is the major factor for starting a sourcing decision process that aims at reorganising hosting of software applications. Four other factors are also suggested influence the start of sourcing decisions: Capability, cost, strategy and core competence. All these factors, including control, have a role in sourcing decisions. The magnitude differs between the factors, and the thesis shows that the role the factors, involved in sourcing decisions regarding hosting of software applications, can be seen as either influencing or justifying. As a result from the thesis, it is suggested that cost and core competence are justifying factors while strategy, capability and control are influencing factors. Control is as indicated above the most
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dominating factor at the start and that continues throughout the process. It can be proposed that it differs what the control is about between different organisations, and the difference is dependent on what level of ICT maturity the specific organisation is at regarding usage of software applications. From this it can be suggested that if the organisation is at a higher maturity level of software applications the start is more influenced by a proactive control aiming at increasing software applications capability. The opposite is then present if the organisation is at a lower maturity level of software applications, if so, the start and the sourcing decision-making process is made from a reaction that the organisation needs to increase control over what software applications that are used in the organisation.

9.1.2 How is Sourcing Decisions Made?

The second sub-question was: How do organisations make sourcing decisions?

It can be proposed that the major factor that influences how sourcing decisions are made is decision-makers attempt of having organisational action regarding a change of how the organisation hosts its software applications. To have appropriate organisational action the decision process aims at increasing the commitment of the intended outcome. To do so decision-makers conduct what could be described as, at least from the perspective of an outside investigator, an irrational decision-making process. This means that already at the start of the sourcing decision the direction of the outcome is decided on, in the form of direction for how the organisation should host its software applications in the future. The desired outcome influences the process by for instance having reference cases supporting intended outcome. The thesis identifies two paths for how sourcing decisions are made. The first could be described as reaction on problems with existing ICT and software applications usage, and it starts from the point that the organisation has to change its hosting because it mainly lacks control over what software applications that are used. This means that decision-makers want control of the organisations software applications portfolio, and thereby indirectly control costs over software applications. The second path is more proactive, also starting from lack of control, but in this case the lack is seen from the point that decision-makers have control over the portfolio of software applications and want to increase gained capability from existing software applications usage. In the proactive path the need of control then focus more on increasing software applications capability, but also
decreasing software applications costs, and thereby become a more competitive organisation. In the thesis it was found in both cases that the sourcing decision-making process changed during its runtime and it is suggested that irrespective of whether the process is reactive or proactive at the start, the process is more proactive at the end of a sourcing decision-making process. This was supported by the fact that decision-makers in both MeLo and in the municipality at the end of the sourcing decision-making process focused more on increasing gained software applications capability than at the start of the process.

9.1.3 What Relations are there Between Why and How Factors in Sourcing Decisions?

The third sub-question was: *What* relations exist between why and how factors in sourcing decisions?

The main conclusion on how a sourcing decision is made is that it to a high extent is dependent on a specific decision-maker and how the process is made depends on, for instance, if the decision-maker is reactive or proactive. This is also reflected in the relation between why factors and how factors in sourcing decisions. It is proposed that sourcing decisions regarding hosting of software applications can be described as an irrational decision-making process that aims at having appropriate organisational action on a beforehand decided outcome. From this it can be suggested that factors involved in sourcing decisions are either influencing or justifying. Cost as well as core competence that often are described being factors influencing the start of a sourcing decision process can be said have more of the role of being justifying factors. The reason for this is that the actual influencing factor sometimes makes it hard to trigger commitment to the process as well as to trigger commitment to the final decision in a sourcing decision. The factor suggested having the highest influence at the start of a sourcing decision is the need to control either costs or usage of software applications. Increasing control of usage can be said have high resistance and is therefore not always expressed clearly by decision-makers as the reason for the sourcing decision.

By describing sourcing decisions as irrational decision-making processes it can be proposed that these are influenced to a high extent by specific decision-makers’ thoughts about how to increase control. This means that the result becomes the option that decision-maker’s see as delivering the best control from their point of view. It can be proposed that though decision-makers in
sourcing decisions often are executives at a high hierarchical level in the organisations, the outcome often aims at a higher level of centralisation regarding hosting of software applications. From this it can be proposed that the final decision often becomes outsourcing if the organisation has a centralised hosting before the sourcing decision started and if hosting is decentralised to a high extent before the start, the final decision becomes an internal restructuring which could be seen as the first step in the direction of outsourcing of hosting.

9.2 Theoretical Implications

Decision-making is a well researched subject and it could be asked what this thesis contributes with. The contributions from this thesis come from the fact that it describes how organisations make strategic ICT decisions. It can be concluded that a sourcing decision is a strategic decision. Sourcing decisions are defined as a decision aiming at adoption of a change that often is “new” for the organisation and as such contains a lot of uncertainty for the adopting organisation. This can definitely be said about ICT outsourcing even if the organisation earlier have outsourced for instance manufacturing, and the reason is that ICT are highly intertwined in organisations business processes. From a theoretical perspective sourcing decisions can be seen as having more or less rationality in the decision process. The thesis contributes to the discussion about rationality in decision-making by using the discussion from Brunsson (1985), Simon (1997) as well as March (1994) and it can be proposed that the decision-making for a strategic decision such as sourcing decisions can be described as irrational decision-making aiming at organisational action and that it is influenced by power and politics as described by Pettigrew (1973) to a high extent. The contribution of the thesis of sourcing decision-making processes can also be described as contributing to the discussion about how to make strategic decisions as an innovative non-programmed decision-making process that needs to have high commitment. The contribution is that it describes the importance of high commitment and in what way high commitment is received in a sourcing decision-making process where the result influences more or less all employees in an organisation.

This thesis contributions further builds on the knowledge base about process research on decision-making as described by Elbanna (2006). The thesis describes and explains how a sourcing decision-making process can be made and what factors that influence this process. In that way it fills up the identified
and described gap of research about decision-making processes regarding hosting of ICT and software applications as described in Chapter 1. The thesis also contributes to the agency-structure problem by adopting a critical realism perspective. It does so by having a focus on ICT and software applications, which could be said to a high extent reflecting agency-structure problems. The reason for that is that ICT and software applications to a high extent are involved in organisations business processes, therefore a focus on ICT and software applications provides new knowledge to research about decision-making. This knowledge is gained from showing that a sourcing decision is influenced by the history of the organisation as well as ideas from a specific decision-maker but also from the context in which the decision takes place.

9.3 Practical Implications

The thesis identifies at least two different problematic issues for decision-makers in sourcing decisions. These are identified from the fact that the process is heavily influenced by a desired outcome from decision-makers. This means, first, that the ones influenced by the decisions but not involved in the decision process do not really know what it is decision-makers decide on, and second, there needs to be a clear view over the actual situation in the organisation. From this it can be suggested that it is extremely important in a sourcing decision process to clearly define what the subject of the decision is. There is at least one specific problem possible to draw from this related to specifically ICT and software applications, and that is from the fact that ICT and software applications are intertwined in more or less all business processes in an organisation. This means that more or less all employees are in one way or another affected by a sourcing decision. The result from this is that in sourcing decisions when for instance deciding on outsourcing of ICT, it directly and indirectly affects the entire organisation. This indicates that ICT sourcing decisions are “hard” to make and therefore need to have high commitment in the entire organisation.

It can also be proposed that defining and describing the relation between hosting and development are necessary to do in a sourcing decision project, since there is a need of agreement on what the sourcing decision is about. The reason is that it is important to have commitment on the outcome from the project as well as having trust on the project during its run time. This is closely related to the problematic issue that states that in a sourcing decision process it is important to have a clear view of how the hosting situation is managed at the
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moment. This can also be described as a major implication from the point of view of how software applications are involved or influence organisation’s business processes. It can be said that it is important to clearly define what maintenance is and what operation is since it is important to clearly define different components in a sourcing decision. If not being able to do so, there is a risk that commitment will decrease and thereby the possibility to have appropriate organisational action as a result of the decision.

Having a clear view of hosting means that the decision-makers know what software applications the organisation use, how these are hosted, maintained and developed. This can be compared to the importance of doing a change-analysis, and the importance of clearly describe what problem or problems the software should solve, before developing new software applications. One explanation of why it is of importance to have a clear view is that sometimes the hosting solution results from a set of smaller sourcing decisions. It could even be concluded that it is of even more importance to be clear what a smaller specific decision is about as well as what the actual situation is in the organisation The reason is that, for a certain decision it is harder to have high grade of commitment, if the persons affected by the decision do not understand the total picture that the decision-makers aim at. It can be suggested that it is not clear, nor easy to understand the importance of being clear, when the decision is only about for instance deciding on if a specific software application should be hosted internally or externally as it is when an organisation decides on hosting for all its software applications at the same time. But, it is of importance to have the same clearness even in sourcing decisions of a single software application. It can also be suggested that when an organisation has made sourcing decisions as an emergent strategy, this quite often results in a need for a more clearly conducted sourcing decision process. This indicates that the result from an emergent strategy, when a set of “smaller” sourcing decisions has resulted in a structure of how hosting is done, can be seen as a reason for why a sourcing decision-making process is started.

For the organisations that has made a set of smaller decisions that has influenced the hosting situation, the possibility to restructure is probably restricted to a great extent by the existing structure. This implies that smaller sourcing decisions, for instance the decision of how to host a specific application, independent on if the organisation builds or buys the software application, is a decision that is of importance and the result can in the future
influence and impact the organisation’s ability to restructure its hosting to a great extent. The practical implications from this study can be summarised as follows: How hosting of software applications is organised to a great extent directs organisations possibility to have control over software applications. Control of software applications are of importance for the organisation’s future development. This means also that sourcing decisions aimed at changing the organisation of hosting need to have high commitment of the change among those who are affected by the change. The thesis described two different sourcing decisions that can be said resulted in high commitment and it can be proposed that this description can help decision-makers to make “better” sourcing decisions in the future.

9.4 Evaluating the Thesis

This section uses Klein & Myers’ (1999) seven principles for evaluating interpretive field studies to evaluate the thesis; it does so despite the fact that the thesis not is strictly an interpretive field study. The reason is that I see the principles as generic and useful also when discussing a retrospective case study influenced by critical realism. This choice is also informed by Karlsson (2005) who says there is no list of criteria to evaluate work done from a critical realist perspective. Karlsson emphasises on four areas when evaluating his critical realist research: replication, specification of context, correctness of the observed and normative description. This is also in line with what Bryman and Bell (2003) describe as critiques of qualitative research, namely that: qualitative research is difficult to replicate, too subjective, has problems with statistical generalisation, and a lack of transparency. My view of this is that Klein and Myers’ principles discuss these problems.

The first and, according to Klein & Myers, overarching principle that guides the rest of the principles is the principle of the hermeneutic circle. In the thesis the principle of going from the whole to the part and from the part to the whole has been an important principle. An example of this is the relation between why factors and how factors. I started to study ‘why’ factors to find out how these influenced how sourcing decisions were made, but to understand ‘why’ factors, I have studied how sourcing decisions were made. This can also be exemplified by the empirical studies made, where the interviews have alternated between discussing why factors and how factors involved in sourcing decisions. This indicates that I have alternated between “the parts and
the whole” in the thesis, which to Krippendorff (2004) is the basic thoughts in a qualitative content analysis.

The second principle is the principle of contextualisation. This means that the subject that is under study is set into its social and historical context. The objective of this is according to Klein & Myers to give the intended audience a description of how the current situation under investigation emerged. In the thesis I have done this by presenting the history of the sourcing decisions made in Chapter 7, and by providing context to the subject and the analysis with the set of propositions developed in Chapter 5 and Chapter 6. The difficulty that Klein & Myers highlight with this contextualisation is that an interpretive researcher seeks to understand a moving target. In this thesis the subject has been the “sourcing decision-making process”, which to some extent can be seen as a moving target. But, the thesis have described and explained already made sourcing decisions. To do that it has been important to have a clear relation to theories about sourcing decisions and the initial propositions have thereby played an important role. The risk with my approach could be that the initial propositions and the theoretical base have influenced my interpretation. However, I would say that this has been managed by being aware of the risk. But, I would also say that the initial propositions have guided me and helped me when describing and explaining investigated sourcing decisions.

The third principle is the principle of interaction between the researcher and the subject, indicates that the researcher must be aware of that the data are not just waiting to be collected. This implies that the researcher partly creates the data in cooperation with the respondents. In this thesis this has been the case to a smaller degree. One example of how data were created in interaction with the respondents was when I asked about conflicts in the decision-making process. The answer on that question has been “of course there have been conflicts”, and then the respondents were asked to exemplify this. Another way of doing this could be to wait for the examples and then analyse the examples as conflicts. The interaction between me and the subject has been controlled by being aware of the fact that the respondent just as much as the researcher is an interpreter and analyst.

describe validity as when the “thing” that is supposed to be measured is measured. The question is then if the research method used was the correct method to use? I would say that since the thesis is about sourcing decision-making processes that are done by decision-makers, interviewing them seem to be the way to have answers on the questions asked. The interviews were validated by follow-up questions to the respondents. The findings have also been validated by using information from different sources. This has been done by combining interviews with different decision-makers involved in the decision-making and with documentation from each sourcing decision. By asking questions from the documentation without showing that you already are familiar with the content of the documentation also validation of the documentation took place. This means that there has been a data triangulation that increased validity. All this can be seen as construct validity. According to Yin internal validity concerns only studies that have an ambition to explain a causal relationship, which is not the case in this thesis. External validity deals with whether the findings are generalisable or not. This is discussed under generalisability.

Reliability has to do with showing whether a study such as this can be repeated with the same conclusions. To warrant that I have presented in Chapter 3, in my view, a rich description of how the research was made. It is, however, important to remember when discussing reliability that the conclusions build on interpretation, which means that the same data and the same findings could be interpreted in another way by someone else. The way this is dealt with is that I have exposed my interpretation by writing up referred conference papers about the research and the findings and thereby let other researcher interpret it. The interpretation is also to some extent “checked” by co-authoring papers.

According to Yin (1994), there are two different kinds of generalisation: Analytical generalisation and statistical generalisation. What can be said about generalisation in this thesis is that it can hardly be argued to be able to provide statistical generalisation. There are two reasons for that: First, empirical investigation of only two sourcing decisions is too few to have statistical generalisation. Second, the decisions as such in an organisation are highly influenced by various factors which makes a decision in one organisation differs a lot from a decision in another organisation, even if the decisions concern the same matter. This leads to the second type of generalisation, analytical generalisation, which means that the researcher strives to generalise a
specific set of results into a theory. I do that by using the propositions in Chapter 5 and Chapter 6 to analyse the empirical data and from the analysis present a set of developed propositions that can be seen as an improved theory about sourcing decisions. This means that the result can be said to be analytically generalisable, referring to Lee and Baskerville’s (2003) description of generalisation from theory to theory. This can be compared with the distinction that Easterby-Smith et al. (2002) make that generalisation is made in the positivist tradition as statistical probability and in the social constructivism tradition as theoretical abstractions. It can also be compared to the description of critical realism that Morton (2006) gives, when he says that a phenomenon can be explained in different ways, but these explanations have to be related to an independent reality.

The fifth principle is the principle of dialogical reasoning. This means, according to Klein & Myers, that the researcher should report the philosophical direction of the research. For that purpose I give a fairly rich description of fundamental philosophical assumptions in Chapter 3. My fundamental philosophical assumptions belong to critical realism and I see it as necessary to have a focus on both agency and structure, in the form of the real, the actual and the empirical, to be able to describe and explain for instance a sourcing decision.

The sixth principle is the principle of multiple interpretations. Results from a case study such as this can certainly be interpreted in various ways. This principle was one reason why I made the choice to use several theories and models in the development of the propositions in Chapter 5 and Chapter 6. This principle is related to the question of reliability which has been discussed above. It can be said that in case studies there can always be more interpretations. In the thesis I have used initial propositions and these propositions have been used as a theoretical lens (Walsham, 1995) when analysing empirical data. The motivation for the use of the initial propositions when analysing the empirical data also follows the arguments proposed by Walsham (1995), who says it is necessary to take into account previous knowledge and studies. The risk of doing so could be that the propositions in to high grade direct what will be searched after. There is also a risk of observing only what the propositions focus. This discussion is also related to the next principle.
The seventh and final principle is the principle of suspicion. This principle states that this kind of study should be influenced and encouraged by some form of critical thinking. In my case I have tried to be critical of what the respondents have told me as well as of my own interpretations and asked myself if I or they are biased in any way. It could also be seen as being critical of and question theory. This has also influenced my choice of using several theories. In the thesis there are two theories that to a high extent have been used and that is the resource based view of the firm and Brunsson’s description of irrationality in decision-making. However, I would say that this is something that has informed me during the whole time and I would therefore say that the “bias” is controlled and the theories have had the role of a lens (Walsham, 1995) when studying the data.

9.5 Further Research

The subject that is discussed in this thesis, decision-making processes, could be described as a “never-ending story”. I would say that it is always possible to find new interesting perspectives to apply on decision-making as a general subject but also on decision-making regarding sourcing decisions. In the course of this thesis, new perspectives have been discovered all the time. Some have been possible to incorporate while others have not. Some of these can be described as fruitful to do further research about. I summarises these by giving three potential research questions related to a continuing of the research in this thesis:

- How do factors involved in sourcing decisions influence the sourcing decision if the decision is about a specific process and the software is supposed to support a specific process?

This question is closely related to the question in this thesis, and it can be said that it is more or less could be seen as a continuing on this thesis. The question is definitely interesting when for instance connecting the sourcing decision to more complicated information systems such as enterprise resource planning (ERPs) systems. This kind of systems are systems that involves the entire organisation and this means that the system are used by more or less all employees, which makes it even more interesting to do research about how organisations decision-makers decides when deciding on hosting of these.
Deciding on Sourcing Option for Hosting of Software Applications

- In what way do sourcing decision-making processes influence the relationship between different partners in a sourcing relationship that always results from the final decision in a sourcing decision?

Also this question can be related to the question in this thesis and the findings that are presented. The question can more specifically be described in the following way: If an organisation decides on a specific sourcing option, for instance outsourcing, and the reason for this selection is a need to increase control, it could then be asked how this control impact the relationship both at the start up both also in the long term relationship. This can be related to a question of for instance trust.

- How do size of the organisation and/or in which industry the organisation acts in influence why and how organisations make sourcing decisions?

This question is more or less the same question as in the thesis but the difference is that it has an additional unit of analysis. This means that it could be seen as a replication of this thesis. One way to do this could be to add some more cases and use the empirical data in this thesis in addition to some new cases. It could also be that some input on this question could be gained by just having size and industry in focus when analysing the data.

These three questions suggested as future research could be researched from the final set of propositions that this thesis delivers. Another potential future research is strictly to use the propositions as input to questions in further studies of sourcing decisions, either as case studies interviewing decision-makers or as a more broad study, where the propositions could be used as input for developing questionnaires. This would further describe the relation between different factors in sourcing decisions and would further increase the knowledge base on why and how organisations decide in sourcing decisions. It would also increase the generalisability of the findings and would increase the knowledge base of sourcing decision-making processes and how different contexts such as different industries influences the process, but also how future development of for instance service oriented architecture (SOA), web services, software as a service (SaaS), open source and so on influences why and how sourcing decisions are made.
References


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References


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Appendix A – Relevance Tree

How and why do organisations decide on a specific sourcing option for operation and maintenance of software applications?

- Decision-making
  - Who makes sourcing decisions
    - How sourcing decisions are made
      - Decisions authority
        - Organisation of decision-making
          - Power and politics of decisions (Pettigrew, 1973)
          - Rational versus irrational decision-making (Brunsson, 1985)
          - Decision-making models (Simon, 1960)
  - Why sourcing decisions are made
    - When are sourcing decisions made
      - What are sourcing decisions
  - Sourcing options
    - Outsourcing etc
  - Management of the ICT function/resources
    - Facilities management
      - The resource concept
  - ICT governance
  - ICT management
  - ICT, IT and IS

Software applications
Appendix B – Interview Questions

Initial questions asked during interviews at MeLo

− How is MeLo organised?
− How is the business IT unit organised?
− What does the business IT unit do?
− How is hosting made?
− How is maintenance made?
− How is development made?
− Why is it organised in this way?
− What was the situation before the sourcing decision project?
− What decisions have been made?
− How has these decisions been made?
− What was it that made the outcome of different decisions?
− Why was the decision(s) made?
− What was the outcome of the decision(s)?

Initial questions asked during interviews at the municipality

− What is your role in the municipality?
− What role/roles did you have in the project
− Could you describe how the decision/decision process was made?
− What decisions has been made?
− Who made the decisions?
− How were the decisions made?
− What alternatives were discussed?
− Why was this decision(s) made?
− What reasons were there for the start of the decision process?
− What problems were there that the project should deal with?
− How is the municipality organised?
− How is the work organised today (before the decision)?
− How will the work be organised in the future?
− Have there been different opinions in the project?
− In that case, how have these been managed?
− Why was the project started?
− What was the project about?
− How is hosting organised today?
− What was it that made the final decision?
− What alternatives were discussed?
− Who has been involved in the decision?
− What documentation exists over the project?
− Is there anything else you think that I should know about the project?
### Appendix C – Documentation used in the Thesis

#### Documentation used in the MeLo case

<table>
<thead>
<tr>
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<td>28</td>
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