Towards an ontology for designing successful outsourcing strategies and choosing aligned outsourcing configurations

Master's thesis
Sijmen Schoeman
September 2007

University of Twente
Enschede - The Netherlands

Capgemini
CONSULTING.TECHNOLOGY.OUTSOURCING

Student
Sijmen Schoeman, Industrial Engineering and Management, University of Twente

Supervisors
Jos van Hillegersberg, School of Management and Governance, University of Twente
Daniel Moody, School of Management and Governance, University of Twente
Michiel Borgers, IT Sourcing Consulting, Capgemini
Nico Bakker, IT Sourcing Consulting, Capgemini

ABSTRACT

Information systems outsourcing is a popular mechanism for addressing the IS function of the organization. Reasons for outsourcing may involve cost reduction, acquiring capabilities, and focus on core competences. When designing an outsourcing strategy organizations are confronted with various questions, such as:

- What information systems to outsource and what systems to remain in-house?
- How many suppliers to choose and which supplier to choose?
- How to design the outsourcing relationship?
- How to determine the success of the outsourcing strategy?

For most organizations the answers on these questions are not evident. In this research outsourcing strategy design is perceived as a weakly-structured problem. Based on a structured review of the relevant literature an outsourcing strategy ontology is suggested that provides a holistic view of the problem domain. The ontology is built up out of: situational factors, outsourcing drivers and outsourcing risk, outsourcing configurations attributes, and outsourcing success measures.

The outsourcing strategy ontology was tested in a series of ten interviews with experts from consultancy firms and client organizations. In the interviews experts were sharing their experience by describing outsourcing strategy cases. Nine of the ten interviews have been transcribed and were analyzed by means of content analysis. The ontology was used a theoretical lens to understand the outsourcing decisions of the experts.

Based on the cases that were considered it can be concluded that there exists a discrepancy between theory and practice. More than half of the situational factors stated in the ontology were not mentioned by the experts. Conversely, experts were emphasizing additional factors such as the importance of IT governance. It was also found that some attributes stated in the ontology are multi-dimensional in the sense that they apply both to the supplier and client. Two experts were also stressing the importance of subjective judgement in outsourcing strategy decisions. Weakly-structured problems often go along with subjectivity.

PREFACE

One of the final courses of my study Industrial Engineering & Management was about outsourcing strategy design. This course has developed my interest for outsourcing decision-making and made me decide me to dedicate my master's research to this subject. I was lucky to conduct my research at one of the most progressive firms in outsourcing design: Capgemini.

TABLE OF CONTENTS

1   INTRODUCTION

In this introductory chapter the research outline, the research environment, and the structure of this thesis are described. A more detailed description of the research context is presented in the next chapter.

1.1   Research outline

The research described in this thesis is about IS outsourcing strategy design. The goal of this research is to provide organizations and consultants with a decision aid for designing successful outsourcing strategies and choosing aligned outsourcing configurations. To this end an outsourcing strategy ontology is drawn up from the literature and tested in a series of ten war story sessions with experts from different disciplines. The final ontology provides a reference framework including the most relevant attributes for designing IS outsourcing strategies.

1.2   Research environment

The research was sponsored by the IT Sourcing Consulting focus group of Capgemini. ITSC has invested both money and resources in terms of two supervisors to make this research to a success. ITSC support customers throughout the complete Sourcing Life Cycle: from Strategy Definition to Transition & Transformation to Operation. Next to the case studies held at ITCS, case studies were also conducted at Capgemini Consulting Services, Capgemini Outsourcing Services, two competitors, and two clients.

1.3   Structure of this thesis

The structure of this thesis is as follows. The next chapter gives a detailed overview of the research context. IS outsourcing is defined and described and the current research on outsourcing strategy design is synthesized. In chapter three the research objective and the problem statement are presented, including research framework and research questions. The chosen research method is explained in chapter four. In chapter five a detailed synthesis on IS outsourcing strategy design is presented. Chapter five is structured around four parts: situational factors, outsourcing strategy attributes, outsourcing configuration attributes, and outsourcing success measures. Based on the theory synthesis, an outsourcing strategy ontology is suggested which is presented in chapter six. The analysis is described in chapter seven. In this chapte both case studies and findings are described. Finally, in chapter eight conclusions are presented and suggestions for future research are given.

2   RESEARCH CONTEXT

2.1   Information systems outsourcing

Information systems outsourcing knows many definitions.   All these definitions agree on that outsourcing involves the use of external parties to fulfill the IS needs of the client organization. IS outsourcing may concern information systems, IS components (hardware, software, people, procedures, data), and IS activities (e.g. IS planning, design, development, maintenance). The aggregate of these parts is referred to as the IS function (De Looff, 1996). According to Dahlberg and Nyrhinen (2006) the focus on outsourcing has changed from technical to service management. A service is a logical representation of a repeatable activity that has a specified outcome.   Furthermore a service should serve specific business- of IS goals. Following the trend of service orientation, this study has adopted the definition of IS outsourcing from Cohen and Young (2005):

"IS outsourcing is the disciplined provisioning and blending of business and IS services from the optimal set of internal and external providers in the pursuit of business goals."

2.2   Extent of IS outsourcing

IS outsourcing has made a tremendous growth over the last two decades and is still growing. Gartner (Scardino et al., 2006) estimated that in 2005 firms worldwide were spending $ 167 billion on infrastructure outsourcing and $39 billion on application outsourcing. By 2010 Gartner forecasts that the global infrastructure outsourcing market reaches $ 234 billion and the global application outsourcing market $ 58 billion.

Extent of IS outsourcing also applies to the global scale of outsourcing. Currently outsourcing firms are not limited anymore to domestic suppliers. Free-market economy, cheap telecommunications networks, low-cost computing, and standardization have made it possible that suppliers all over the world can provide their outsourcing services. The phenomenon of a company outsourcing to a supplier that is located in a different continent is called offshore outsourcing or offshoring. When the supplier is located in the same continent as the client, but in a different countries this is called nearshore outsourcing or nearhoring. Currently India, China, and Russia dominate the IS offshore market (Carmel and Tjia, 2005). However, emerging nations such as Costa Rica, The Philippines, and several Eastern European countries are also establishing significant positions in the IS offshore market.

2.3   IS outsourcing process

In general the following phases can be distinguished in the outsourcing process: strategy development, transition, relationship management and –evaluation, and finally relationship termination. Note that the last phase does not necessarily have to take place when the initial outsourcing contract ends. The client and the supplier may also decide to continue the relationship possibly against other terms.

This study is focuses on the phase of strategy development. Basically IS outsourcing strategy development involves the following steps: assessing the current situation, determining the goals of outsourcing, defining the outsourcing service scope,

selecting one or more suppliers, and designing the client-supplier relationship. Although much research has been produced in the area of strategic outsourcing only two definitions of IS outsourcing strategy were found in the literature. The most complete definition, that of Dreyfuss and Karamouzis (2002), has been adopted for this study.

"IS outsourcing strategy is a set of scenarios, plans, directives, and decisions that dynamically define and integrate the internal and external resources and services required to continuously fulfill an enterprise's business objectives."

This definition says that an outsourcing strategy also includes scenarios. Scenario is a concept that has ambiguous meanings. In this thesis the concept of outsourcing configuration is used. Cullen et al. (2005) define IS outsourcing configuration as:

"a high-level description of the set of choices the organization makes in crafting its IS outsourcing portfolio."

Outsourcing configurations reflect the decisions made concerning the type of IS services being outsourced, the number of IS suppliers, the intended relationship with these suppliers, applied pricing methods, etc.

2.4 Outsourcing strategy decision models

Some researchers have made an attempt to support organizations in developing their outsourcing strategies.

2.4.1 *Strategic versus commodity*

Quinn and Hilmer (1995), Lacity et al. (1996), and King (2001) apply the strategic versus commodity approach as a way for determining candidate services for outsourcing. In principle the strategic versus commodity approach is based on the core competences theory of Prahalad and Hamel (1990), which says that core competencies should be kept in-house and commodities should be outsourced. All authors use two dimensions for assessing candidate activities: competitive edge and strategic vulnerability (Quinn and Hilmer, 1995), contribution to business positioning and contribution to business operations (Lacity et al., 1996), and core competencies and critical success factors (King, 2001). The disadvantage of the above models is that they only apply to the outsourcing scope decision. Outsourcing strategy also involves making choices regarding the number of suppliers and the future relationships with these suppliers. Although Lacity et al. (1996) have based their model on the strategic versus commodity approach, they note that the competitive advantage of information systems or IS activities is not always visible. Finally, assessing IS activities on just their strategic contribution is not sufficient. Specific characteristics of IS activities may be even more critical.

2.4.2 *Multi-criteria decision analysis*

Other researchers have used multi-criteria decision techniques to for their outsourcing strategy models. Yang and Huang (2000), Udo (2000), and Pandey and Bansal (2003) have proposed sets of outsourcing decision criteria and suggest the analytical hierarchy process for structuring and assessing these criteria. The outsourcing decision model of De Looff (1996) includes decision variables, situational factors, and goal variables. The author describes a score card technique for assessing

the different variables. With these multi-criteria decision models more aspects of the outsourcing decision are considered. However decision-makers may find it difficult to select the attributes that are relevant to their decision. Besides it is questionable whether all potential outsourcing decision criteria are identified by the researchers stated in this paragraph.

2.4.3   *Case-based reasoning*

In a research field where empirical results are lacking Hsu et al. (2004) have adopted case-base reasoning for their outsourcing decision model. CBR concerns the use of past cases in order to interpret the current problem situation. The authors use CBR to analogize the implications of 22 IS attributes on 8 IS outsourcing success measures. The emphasis of this study was tot select the most accurate weighting method for presenting the relative importance of IS attributes towards outsourcing success. The result do not tell if the set of IS attributes is valid and complete.

2.5   Difficulties outsourcing strategy development

In a global survey among 944 organizations Gartner (Young and Potter, 2006) found that 23 percent of the North American respondents and 27 percents of the European respondents have brought outsourced services back in-house. Reasons mentioned for backsourcing IS services were: performance issues with the supplier, not realizing expected cost savings, and change in business direction. Similar findings were reported by Deloitte (2005): one in four organizations had insourced IS functions again. Earl (2004) states that one fifth of outsourcing contracts ends prematurely.

These findings suggest that a significant number of outsourcing strategies do not exceed as intended. Off course it takes more than a good strategy to make outsourcing a success. The implementation and the relationship with the supplier are also affecting the outcome of an outsourcing strategy. However, it is believed that a solid strategy that takes into account future developments is a good starting point for making outsourcing a success. Developing such a strategy is rather complex. In the following some difficulties in the outsourcing strategy process are described.

2.5.1   *Increasing outsourcing options*

Developments in the international supplier market have made outsourcing decisions more complex. Currently client organizations can choose suppliers from each continent of the world. Every outsourcing nation has its own unique capabilities and drawbacks. As a result the choice in potential suppliers has become more diverse which increases the supplier selection process. Also the number of outsourcing suppliers of the client has changed over the last years. In the early days of outsourcing the entire service scope was often awarded to just one supplier. Nowadays more and more client organizations have multiple outsourcing providers. This implies that outsourcing companies should divide their service scope in logical and coherent parts and have to organize multiple bids. Multi-vendor sourcing also requires advanced governance capabilities of the client. If the client organization lacks such capabilities, it can also assign a prime contractor that subcontracts to multiple suppliers. Finally outsourcing relationships are also becoming more advanced. One example of this is co-sourcing, where both the client and the supplier contribute expertise and resources and have distinct accountabilities.

2.5.2 *Irrational decision process*

Hui and Beath (2003) argue that the theory on outsourcing decision-making tends to be either cross sectional or based on retrospective recollections. As a result the underlying decision process is not captured. Many studies presume that outsourcing decision-making is a rational and orderly process. Taking into account the many contextual factors involved in an outsourcing decision, Hui and Beath (2003) state that rational processes occur not very often in these kinds of decisions. This is especially the case for client organizations. Suppliers at least have the experience to tune methods for rationally valuing IT outsourcing deals. In founding their arguments the authors refer to research that suggest outsourcing decisions are more political than rational (Lacity and Hirschheim, 1993a; Lacity and Willcock, 1998).

2.5.3 *Relative equifinality*

Marcolin and Ross (2005) argue that contradictory findings in the research field of outsourcing decision-making can be explained by the concept of equifinality. Equifinality says that there exist multiple pathways to success. This means that outsourcing the IS function can be done in different ways that provide similar results. For example, insourcing or outsourcing is not the issue, but rather how relationships are organized with internal or external parties. The authors especially emphasize the importance of relationship management and present a framework for IS-Business Partnering. The framework has three dimensions: durability of the relationship (partnering in context), influence of individual parents (partnering in action), and the location of the parent, internally or externally (partner source). Besides the framework has a continuum of outsourcing options. In the article the framework is applied on eight cases. The message of Marcolin and Ross is that in designing an outsourcing strategy, managers or consultants should be aware that there are multiple solutions that can satisfy their requirements.

In line with Marcolin and Ross (2005), Lee et al. (2004) have investigated the superiority of the configurational perspective above the universalistic perspective and the contingency perspective in explaining outsourcing success. The universalistic perspective is concerned about identifying standard solutions that can be used in different firms for increasing performance. The contingency perspective states that organizations are not all alike and therefore the structure and choices of the company should be in fit with the organizational context in order to be effective. Finally, the configurational perspective considers both the internal and external environment of the organization. In addition the configurational perspective argues there are multiple pathways to success.

The configurational perspective was represented by three gestalts, i.e. feasible sets of internally consistent configurations: independent gestalts that are characterized by minimal outsourcing via short buy-in contracts, arm's length gestalts that are characterized by selective outsourcing with medium-term contract containing detailed specification of obligations, and embedded gestalts that are characterized by comprehensive outsourcing in long-term relationships with unspecified contracts.
In addition to these strategic perspectives Marcolin and Ross (2005) introduce three dimensions for both outsourcing strategies and outsourcing success. The outsourcing strategy dimensions are: degree of integration, allocation of control, and performance period. The dimensions of outsourcing success are: strategic competence, cost efficiency, and technology catalysis.

By conducting a survey among 1,000 large South Korean firms the authors have tested to what extent the strategic approaches explain the relationships between the dimensions of outsourcing strategies and outsourcing success. Analysis of the 311 respondents showed that gestalts outperform non-gestalts regarding outsourcing success. In addition arm's length gestalts outperform the other gestalts in regard to cost efficiency. Embedded gestalts are superior to the other gestalts when it comes to technology catalysis.

2.5.4   *Weakly-structured problems*

Simon (1973) distinguishes three types of problems: well-structured problems, weakly-structured problems, and ill-structured problems. For well-structured problems it is clear what the relevant variables are and what their relationships are. Well-structured problems come with sufficient data or information and are usually repetitive and routine. These types of problems can be solved with established methods. An example of a well-structured problem is finding the roots of a quadratic equation. This particular equation can be solved with a formula. For the same equation the roots will always be the same.

For ill-structured problems it is hard determine the exact nature, state, and even goal of the problem. Ill-structured problem come with incomplete information which makes it impossible to tell what solution is best. These types of problems tend to be complex and non-routine. Management domains like strategy design and human resource management are often ill-structured problems. Decisions in these domains are most of the time taken by subjective judgment.

Finally, weakly-structured problems or semi-structured problems contain both properties of well-structured problems and ill-structured problems.

No studies were found that said to which class of problems outsourcing strategy decisions belong. It is presumed that outsourcing strategy decisions contain both elements of well-structured problems and ill-structured problems and thus can be seen as weakly-structured problems. Most organizations that want to outsource roughly know what their objectives are but making good decisions about what to outsource and to whom is a lot more complex. Outsourcing strategy decisions are non-routine; every outsourcing decision takes place in its own context. There are some guidelines, like the strategic versus commodity approach but standard solution techniques are lacking.

2.6   About this study

The goal of this study is to support organizations in developing successful outsourcing strategies. Since outsourcing strategy decision-making is perceived as a weakly-structured problem there was no intention to create a descriptive model. In stead the focus was on a creating a complete overview of the outsourcing decision problem domain. It is believed that decision-makers can create better outsourcing strategies based on complete information. A model that describes a particular knowledge domain is also called an ontology. A formal definition of ontology is "an explicit specification of a conceptualization".

3   RESEARCH OBJECTIVE AND PROBLEM STATEMENT

In this chapter the research objective and the research framework are provided. The research questions follow from the research framework and are listed in the last paragraph.

3.1   Research objective

The objective of the research is:

> "…to provide organizations with a decision support aid that helps them in designing successful outsourcing strategies and choosing aligned outsourcing configurations."

Success as an outcome of outsourcing is determined by: (1) designing a good outsourcing strategy and (2) choosing an aligned outsourcing configuration.

3.2   Research framework

The research framework depicted in figure 1 acts as the foundation of the outsourcing strategy ontology. The framework is build up out of four blocks: situational factors, outsourcing strategy, outsourcing configuration, and outsourcing success measures.

Situational factors	Outsourcing strategy • WHY	Outsourcing configuration • WHAT • WHERE • HOW	Outsourcing success
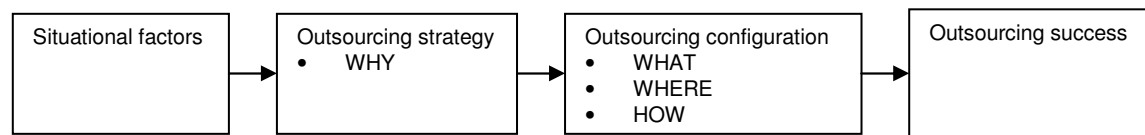
Figure 1: research framework

3.2.1   Situational factors

As stated in chapter 2 this research has adopted the configurational perspective of strategy development. This implies that both the contextual environment and the internal structure of the organization are considered when developing an outsourcing strategy. The internal and external environment are referred to as situational factors.

3.2.2   Outsourcing strategy

According to the definition stated in the previous chapter IS outsourcing strategy involves scenarios, plans, directives, and decisions and business objectives. Directives and business goals reflect the outsourcing drivers: "why does the organization want to outsource?" For example, outsourcing strategies can be driven by cost reduction motives, the desire to focus on core competencies, or improving the quality of IS. In this thesis scenarios and plans are referred to as configurations which are explained next.

3.2.3   Outsourcing configuration

An outsourcing configuration is the actual design of the outsourcing strategy. Outsourcing configurations describe the structural choices made when implementing the outsourcing strategy. In this thesis these choices are reflected by three questions:

- What to outsource (candidate IS functions, IS activities, information systems)

- Where to outsource (e.g. onsite, nearshore, offshore)
- How to outsource (e.g. number if suppliers, type of outsourcing relationship)

3.2.4   Outsourcing success measures

In order to evaluate the outcome of outsourcing strategies a set of successes measures is required. The final block is concerned with identifying and synthesizing such measures from the theory.

3.3   Research questions

The following research questions presented are derived from the research framework. First the central question is introduced, where after the sub-questions are presented

3.3.1   Central question

The central question of this research sounds:

> How can organizations develop successful outsourcing strategies and choose aligned outsourcing configurations?

3.3.2   Sub-questions

The configurational approach, described in sub paragraph 2.2.3, suggests that outsourcing strategies should be aligned with the internal and external environment in order to be successful. Contextual factors, like the firm's business strategy, IT strategy, organizational structure, and current IT organization, affect the possibilities of its outsourcing strategy. Therefore outsourcing organizations should first consider their situation before making outsourcing strategy decisions.

1. What situational factors should be considered when designing an outsourcing strategy?

The result of sub-question 1 is a set of situational factors that are relevant when designing an outsourcing strategy.

In order to describe outsourcing strategies is a coherent way a set of attributes or descriptors is required. This set is acquired by the second central question.

2. What attributes are relevant for describing outsourcing strategies?

Making decisions on outsourcing requires an understanding of the different types of outsourcing configurations. This brings us to the third sub-question.

3. What attributes are relevant for describing outsourcing configurations?

An outsourcing configuration reflects the choices an organization has made in order to realize (a part of) its outsourcing strategy. At a high level outsourcing configurations address the dimensions of where and how to outsource. Sub-question 3 identifies the different attributes for describing outsourcing configurations.

In order to determine the fit between outsourcing strategies and –configurations, one must first be able to recognize successful outsourcing strategies.

4. What attributes are relevant for measuring the success of outsourcing strategies?

The result of this sub-question is a set of measures that can tell if outsourcing initiatives are successful post-implementation.

Sub-questions 1-4 have identified sets of factors, and underlying, attributes that are considered important when making outsourcing strategy decisions. This research views outsourcing strategy design in a holistic way. Therefore the relations between the attributes are just as important as the individual attributes

5. How are the attributes from sub-questions a-d related to each other?

The result of sub-question is a model or ontology for describing and designing outsourcing strategies and –configurations. The outsourcing strategy ontology must agree with reality. Therefore the final sub-question sounds:

6. To what extent is the outsourcing strategy ontology valid in real outsourcing strategy cases?

4   RESEARCH METHOD

In designing and validating the outsourcing strategy ontology three research methods have been applied: structured literature review, case study research, and content analysis.

4.1   Literature study

In maximizing the reliability of this study a structured literature review was conducted using a combination of indexes that cover the top 25 IS journals.

4.1.1   *Structured literature review*

In the structured literature review keywords have been identified, including synonyms and related aspects for answering the research questions. These keywords are listed in appendix I. The retrieved results are recorded in appendix II. Specifying and recording the search process reflects the scope and depth of the literature study. Besides this procedure tells future researchers which aspects were covered in this study and which were not.

Outsourcing was a recurring aspect throughout the search process and therefore is included in all the tables in appendix II. Sourcing, which also includes retention and backsourcing of IS functions, was also added as key word. Retrieved results comprising more than 50 hits were narrowed down by adding additional key words like "information systems" or using exact phrases by placing multiple key words between quotes.

4.1.2   *Indexes*

In finding high quality research it is important to use indexes that cover the best IS journals. Schwartz and Russo (2004) have investigated what indexes have the best coverage of the top 25 IS journals. These top 25 IS journals have been ranked by Mylonopoulos and Theoharikis (2001) according to world and geographic preference[1]. The results of (Schwartz and Russo 2004) are listed table 1. This table also indicates to what extent indexes support full-text search. Besides, the upper right column shows whether a certain index is accessible via the university library.

Rank	Index	Coverage of top 25 IS journals	Full-text search coverage	Available at the University of Twente?
1	Ingenta	24	0	No, but accessible via http://www.ingentaconnect.com Retrieved articles are not free
2	INSPEC, Web of Science	21	0	Yes
3	EBSCO Business Source Premier	19	11	Yes, university is subscribed to EBSCO, Business Source Elite
4	ACM Guide	16	4	Yes
5	ABI / Inform	14	2	No, but accessible via http://proquest.umi.com/pqdweb Retrieved articles are not free
6	Ei Compendex	10	0	Yes, merged with INSPEC

Table 1: indexes that cover most of the top 25 IS journals

A limitation of the research of (Schwartz and Russo 2004) is that it does not say anything about the length of which a certain journal is covered by a certain index. It really makes a difference if a journal is only covered for a period of two years or is

---

[1] In the original article Mylonopoulos and Theoharikis (2001) composed a top 50 of IS journals. Schwartz and Russo (2004) only consider the top 25 IS journals.

covered for a period of more than ten years. However not all indexes publish these figures on their website. Also for some indexes it is not clear how long it takes until a new article becomes available via the index. As a consequence the possibility exists that a researcher misses recent studies that could be interesting for his research. Another thing is that the results listed in table 1 last from February 2004. In the meanwhile the significance of IS journals could be changed just like the coverage of the indexes. For instance, INSPEC and Ei Compendex have been merged in the meantime. Unfortunately, the website does not tell what this merge means for the total coverage of the top IS journals.

The issues addressed above can be resolved by repeating the research of (Schwartz and Russo 2004). However such a study is not in line with this master's research. Besides, as stated earlier, the websites of these indexes do not always provide information on the journals they cover and for what time period. For this reason the recommendations of (Schwartz and Russo 2004) have been followed in selecting a proper index for this master's research.

According to the authors, researchers have two options in assuring that all top 25 IS journals are addressed in their literature reviews. The first option is a combination of Ingenta and ACM Guide. The second option includes INSPEC, ACM Guide, and either ABI / Inform, EBSCO Business Premier, or Web of Science. Concerning the option of full text search, EBSCO Business Source Elite covers 14 IS journals that support this feature. Next to EBSCO both ACM Guide and ABI / Inform include an additional journal that is compatible with full text search. Based on these findings (Schwartz and Russo 2004) suggest researchers to use a combination of Ingenta, EBSCO, ACM Guide, and ABI / Inform for their literature reviews. This combination of indexes covers all top 25 IS journals and includes all indexes that support full text search.

In this master's research, however, was chosen for a different combination of indexes. For practicality reasons the number of indexes was reduced to three. As can be seen from table the university is not subscribed to Ingenta and ABI / Inform. As a result, literature can be searched with these indexes, but downloading interesting articles is another thing. The combination of indexes that was used in this master's research covers the complete top 25 IS journals and includes 14 journals that support full text search. The applied indexes were: INSPEC, ACM Guide, and EBSCO Business Premier.

4.2 Testing

4.2.1 Expert opinion

In the interviews experts were asked to describe an outsourcing strategy case in which they had an active role. Letting experts tell war stories helps them in expressing their knowledge about weakly-structured problems domains (Kolodner, 1992). The experts were not probed with specific interview questions since this might bias their response. In total 17 interview were conducted lasting from 3 quarters to 1,5 hours. All interviews were tape recorded

4.2.2 Content analysis

The recorded interviews have been analyzed with the help of content analysis. "Content analysis is a research method for making replicable and valid inferences

from texts (or other meaningful matter) to the contexts of their use" (Krippendorff 2004).

Transcription

Because of limited time not all interviews could be transcribed and analyzed. It was decided to only consider to those interviews in which the expert directly was involved in the outsourcing strategy design process. This was the case in nine of the interviews. In addition a report describing an interview with an expert of ABN AMRO was added to the analysis. This interview has been conduced at the start of the research and was not tape recorded. However the report has been validated by the expert shortly after the interview.

To save time recorded interviews were not transcribed completely. Instead, only the relevant statements were transcribed. Still this resulted in transcripts ranging from one to three pages. To be able to trace back statements the time was recorded as well.

Coding

The attributes of the outsourcing strategy ontology were used as coding categories. Free coding was also used when statements could not be coded with the current categories.

5   THEORY SYNTHESIS

This chapter synthesizes the literature on outsourcing strategy design. The theory synthesis is structured according to the research framework and research questions: situational factors are discussed in paragraph 5.1, outsourcing strategy- and configuration attributes in paragraph 5.2, and finally outsourcing success measures in paragraph 5.3. Each paragraph starts with giving an overview of the applied literature where after the literature is synthesized. A distinction is made between theoretical and empirical studies. The theory synthesis is the foundation of the outsourcing strategy ontology which is presented in the next chapter.

5.1   Situational factors

This chapter synthesizes the situational factors that were found in the literature. Situational factors describe the current situation as relevant to outsourcing strategy design. Factors regarding future outsourcing strategies and configurations are not considered in this paragraph, but are discussed in the following paragraphs.

5.1.1   Applied literature on situational factors

Table 2 gives an overview of the retrieved studies that have been applied in this research.

Author	Research approach	Data source
De Looff (1996)	Theoretical	Theory
Nam et al. (1996)	Empirical (survey)	154 IS managers in North America
Mol et al. (2003)	Empirical (survey)	204 managers of large manufacturing firms in the Netherlands
Akmanligil and Palvia (2004)	Empirical (case study)	4 cases in a large multinational transportation company headquartered in the US. Interviews were conducted with IS- and user department executives.

Table 2: applied literature on situational factors

5.1.2   Synthesis of situational factors

The situational factors mentioned in the studies from Table 2 are synthesized in the table below. Five groups of situational factors are distinguished: supplier market, competition, information systems, IS needs, and IS processes.

Situational factor	Explanation	References
Supplier market		
Number of IS suppliers	The number of adequate IS suppliers that have the skills, experience, and resources to provide the pertinent IS products to or services to the client organization.	De Looff (1996); Nam et al. (1996)
Entry- and exit barriers	The extent to which IS suppliers can enter and exit the IS market easily.	De Looff (1996)
Market information	The availability of information on IS suppliers, IS products and services, and prices and lead times.	De Looff (1996)
Competition		
IS use by competitors	The degree to which the client's competitors use IS for competitive advantage.	De Looff (1996)
IS outsourcing by competitors	The degree of IS outsourcing among competitors in the client's market segment.	De Looff (1996)
Information systems		
IS specificity	The degree of customization of IS products or services to the idiosyncratic needs of the client organization.	De Looff (1996); Nam et al. (1996); Mol et al. (2003);
IS complexity	The technical complexity of the information system.	De Looff (1996)

Application structuredness	The extent to which applications are structured	Akmanligil and Palvia (2004)
Standardization	The extent to which IS products or services are homogenous and standardized.	De Looff (1996)
Competitiveness	Whether the information system distinguish the client from its competitors.	De Looff (1996)
Criticality	The degree to which the continuity and the availability of systems are essential to the client organization.	De Looff (1996); Akmanligil and Palvia (2004)
IS requirements		
Requirements specificity	The degree of customization of IS requirements to the idiosyncratic needs of the client organization.	De Looff (1996); Nam et al. (1996); Mol et al. (2003)
Requirements complexity	The technical complexity of the information system.	De Looff (1996)
Requirements standardization	The extent to which requirements are homogenous and standardized.	De Looff (1996)
Requirements criticality	The degree to which the requirements have effect on the continuity and the availability of systems are essential to the client organization.	De Looff (1996); Akmanligil and Palvia (2004)
Requirements uncertainty	Technical uncertainty, functional uncertainty, and volume uncertainty of requirement.	De Looff (1996); Nam et al. (1996); Mol et al. (2003)
Requirements uniformity	Extent to which requirements are uniform across different organizational units.	Akmanligil and Palvia (2004)
IS processes		
Process specificity	The degree of customization of IS processes in the organization.	De Looff (1996) ; Nam et al. (1996); Mol et al. (2003)
Process complexity	The technical complexity of the IS processes.	De Looff (1996)
Process standardization	The extent to which IS processs are homogenous and standardized.	De Looff (1996)
Process competitiveness	Whether the IS processes distinguish the client from its competitors.	De Looff (1996)
Process criticality	The degree to which the continuity and the availability of IS processes are essential to the client organization.	Akmanligil and Palvia (2004)
Process scale	Extent to which IS processes are performed by the organization.	De Looff (1996)
Process frequency	Number of times an IS processes is performed by the organization.	De Looff (1996)
Process programmability	Extent to which IS processes can be specified.	De Looff (1996)
Process maturity	The organization's ability to specify requirements and manage IS processes.	De Looff (1996)

Table 3: synthesis of situational factors

5.2 Outsourcing strategy attributes

In this study outsourcing strategy is defined as: "a set of scenarios, plans, directives, and decisions that dynamically define and integrate the internal and external resources and services required to continuously fulfill an enterprise's business objectives (Dreyfuss and Karamouzis, 2002)." The enterprise's business objectives are the drivers for outsourcing which are discussed in the next sub paragraph. Sub paragraph 5.3.2 is about outsourcing risks which can be seen as outsourcing inhibitors. Finally, sub paragraph 5.3.3 covers outsourcing configurations which refer to the approach for achieving outsourcing objectives.

5.2.1 Outsourcing drivers

5.2.2 Applied literature on outsourcing drivers

Table 4 gives an overview of the retrieved studies that have been applied in this research. Except for Goo et al. (2000) all other all retrieved studies were before the year 2000. To overcome possible differences in time a recent Gartner study Young

and Potter (2006) was added. This report showed not any differences in why organizations outsource compared to ten years ago.

Author	Research approach	Data source
Apte and Sobol (1997)	Empirical (survey)	CIO's of large companies in the USA, Japan, and Finland
DiRomualdo and Gurbaxani (1998)	Empirical (case study)	Interviews with senior executives from 50 large companies all over the world
Fowler and Jeffs (1998)	Empirical (case study)	Interviews with senior business managers and IS managers of a UK-based multinational
Goo et al. (2000)	Empirical (qualitative content analysis)	49 articles in 11 MIS journals totaling 243 outsourcing drivers
Loh and Venkatraman (1992)	Empirical (secondary data analysis)	Financial data of 55 large US corporations
Loh and Venkatraman (1995)	Empirical (survey + secondary data analysis)	159 CIO's of Fortune 500 corporations + financial data
De Looff (1996)	Empirical (case study)	IS outsourcing decision framework including 6 goal variables was tested in 23 outsourcing decisions within 6 large Dutch organizations.
Smith et al. (1998)	Empirical (secondary data analysis)	Financial data of 29 firms before and during large-sclae outsourcing
Young and Potter (2006)	Empirical (survey)	945 respondents in large corporations along North America, Western Europe, and Asia / Pacific region

Table 4: applied literature on outsourcing drivers

5.2.3 *Synthesis of outsourcing drivers*

In the table below the outsourcing drivers from the identified studies are synthesized. The different outsourcing drivers are disused below.

Driver	Explanation	References
Quantify benefits of IS	Outsourcing as a mean to quantify IS benefits	(Fowler and Jeffs 1998)
Reduce costs	Outsourcing because the provider can deliver services more cheaper and because it frees the client organization from making capital investments	(Apte and Sobol, 1997); (Fowler and Jeffs 1998); (Goo et al. 2000); (Loh and Venkatraman 1992); (Loh and Venkatraman 1995) (Smith et al. 1998); (Young and Potter 2006)
Improve cost predictability	Outsourcing as a mean for predicting and controlling future IS costs	(Apte and Sobol 1997); (Young and Potter 2006)
Free cash	Outsourcing for establishing financial leverage	(Loh and Venkatraman 1992; Loh and Venkatraman 1995; DiRomualdo and Gurbaxani 1998; Fowler and Jeffs 1998; Smith et al. 1998; Goo et al. 2000; Young and Potter 2006)
Focus on core competencies	Outsourcing in order to focus on core competencies	(Loh and Venkatraman 1995; Fowler and Jeffs 1998; Smith et al. 1998; Goo et al. 2000; Young and Potter 2006)
Shift IS responsibilities to provider	Outsourcing in order shift IS responsibilities to the provider	(Goo et al. 2000; Young and Potter 2006)
Acquire capabilities	Outsourcing to get access to critical and leading edge technologies and expertise	(Loh and Venkatraman 1995; Apte and Sobol 1997; DiRomualdo and Gurbaxani 1998; Fowler and Jeffs 1998; Smith et al. 1998; Goo et al. 2000; Young and Potter 2006)
Improve IS performance	Outsourcing to improve the performance of the IS function regarding service, productivity, lead time, costs, and quality.	(Loh and Venkatraman 1992; Apte and Sobol 1997; DiRomualdo and Gurbaxani 1998; Fowler and Jeffs 1998; Goo et al. 2000; Young and Potter 2006)
Change culture of IS organization	Outsourcing as a mean to change the culture of the internal IS organization	(Fowler and Jeffs 1998; Goo et al. 2000)
Professionalize IS organization	Outsourcing as a mean to professionalize the internal IS organization	(Loh and Venkatraman 1995; DiRomualdo and Gurbaxani 1998; Fowler and Jeffs 1998); (Goo et al. 2000)
Focus on strategic use of IS	Outsourcing in order to focus on the strategic use of IS.	(Apte and Sobol 1997; Young and Potter 2006)

Improve business performance	Outsourcing for a better business result	(Loh and Venkatraman 1992; Goo et al. 2000)
Transform business processes	Outsourcing to transform business processes	(DiRomualdo and Gurbaxani 1998)
Expand business	Outsourcing in order to create new product and / or enter new markets	(Apte and Sobol 1997; DiRomualdo and Gurbaxani 1998; Goo et al. 2000)
Imitating other firms	Outsourcing because other firms do it (bandwagon effect)	(Smith et al. 1998)
Thinking that external providers manage IS better	Outsourcing because the management thinks that external providers can manage Is better	(Fowler and Jeffs 1998; Smith et al. 1998)
Proponents have enforced the outsourcing decision	Outsourcing because proponents have enforced the decision to outsource	(Smith et al. 1998; Young and Potter 2006)

Table 5: synthesis of outsourcing drivers

Quantify benefits of IT

IT is a significant cost component in most organizations. However there are still organizations that lack insight into their IT-related costs and are not able to quantify IT benefits. Outsourcing is a way to overcome this. In case of a fixed outsourcing contract the client organization should know up front what it has to pay for the requested IT services. Off course the outsourcing contract should exactly specify the services and periodic evaluation reports should point out to what extent these services are fulfilled by the vendor. In case of variable pricing methods the bill of the vendor provides, sometimes painful, insight into the costs of the consumed IT services. With variable pricing methods organizations are required to be in control of the use, and therefore the costs, of the provided IT services.

Reduce costs

Organizations outsource their IS functions because external outsourcing providers can deliver services cheaper than the internal IS department. Outsourcing providers have large IS departments that can work cost efficient because of economies of scale. In addition these providers have better access to low-cost labor pools and have more expertise in managing IS cost efficiently than their clients. However DiRomualdo and Gurbaxani (1998) and Goo et al. (2000) argue that there are organization that have large and professional IS departments that can achieve the same specialization and economies of scale. Transaction cost theory states that the organization of economic activity depends on balancing internal production costs against the costs of external transactions. From this perspective outsourcing is a logical decision when an external provider can deliver IS services cheaper than the internal IS department. Outsourcing can changes the IS cost structure and subsequently the business cost structure.

Improve cost predictability

An outsourcing agreement requires the definition of services and pricing models and brings forth periodical overviews of the consumption of IT services by the client. This information is can is valuable in predicting and controlling future costs.

Free cash

In many outsourcing agreements the client sells (a part of) its IT assets and / or hires (a part of) its IS staff to the vendor. The cash that is generated can be helpful for companies that are burdened with short-term liabilities and higher debt. Loh and Venkatraman (1992) argue that debt governance is more appropriate for financing redeployable assets, while equity governance is more suitable for non-redeployable assets. The complexity of the IS function makes the re-deployability of an installed IT infrastructure limited. Therefore the authors conclude that forms with a high level of debt are likely t reduce outsourcing as a means of reducing their non-redeployable

assets. For those companies that consider divestiture, outsourcing is a way to liquefy their IT assets Smith et al. (1998).

Focus on core competencies
In general it is believed that companies should focus on what they do best, i.e. their core competencies. A core competency is "an area of specialized expertise that is the result of harmonizing complex streams of technology and work activity" (Prahalad and Hamel 1990). There are organizations that perceive their IS function, or parts of it, as a commodity. In order to effectively focus on their true core competencies these companies outsource (parts of) their IS function to a specialized vendor.

Though IS is core business for only IS suppliers, a company's IS function and the way information technology is used can be a core competence.

Shift responsibilities to external provider
As proven there are organizations that outsource their IS functions in order to focus on their core competencies. There are also organizations that outsource just to manage the inherent risks of IT. These organizations outsource to avoid the risks that come with IT investments, to keep up with rapidly changing technology, and avoid the risk of technical obsolescence.

Acquire capabilities
Some organizations outsource there IS functions because they want to benefit from IS capabilities that are not available inside the organization. Capabilities can be people- or technology related. Developing lacking capabilities internally may cost too much money or take too much tame. In addition, a growing number of organizations finds difficult to attract qualified IS personnel. Outsourcing releases the client organization form such worries.

Improve IS performance
IS investments should be profitable and bring along significant quantitative and qualitative benefits. These investments should contribute to the overall corporate profitability. When the IS organization does not deliver on time, within budget, or fails to meet user needs or realize business improvements, outsourcing may be the alternative.

Change culture of IS organization
Sometimes outsourcing is used in order to change the culture or attitude of internal IS organization. IS departments can be rather powerful since the business is completely dependent on them. These departments can misuse their power leading to frustrations at the business side. In these situations outsourcing can be used as treat to or really enforce a cultural change.

Transform IS organization
As pointed out some organizations make the outsourcing provider entirely responsible for their IS functions. Other organizations have the objective of improving their internal IS department with the help of an external provider. This is called transformational outsourcing.

Focus on strategic use of IS
There are not many organizations that outsource their IS strategy function. However, there are organizations that outsource low-value IS activities in order to focus on the strategic use of IS. With outsourcing the internal staff can dedicate themselves to more strategic tasks.

Improve business performance
Business performance is operationalized in different ways and companies have their own specific performance objectives. Common performance metrics are based on costs, net income results, and lead times. Organizations may outsource their IS functions. When the business underperforms, organizations may outsource their IS functions to reduce costs or improve the performance of IS. Another way to streamline operations is to sell or redeploy IS assets. Loh and Venkatraman (1992) argue that organizations with low relative performance are more likely to outsource IS functions than competitors with high relative performance. However, the authors could not find significant support for their hypothesis.

Transform business processes
For some organizations just improving the internal IS organization is not enough. With the help of the outsourcing provider these organizations want to develop new IT-based business capabilities, implement IT-enabled business change, and perform IT-intensive business processes.

Expand business
In some situations organization outsource because they want to develop and exploit new IT products and services or enter new markets. With offshoring new markets can be entered where the current business is not present. Sometimes firms want to exploit their internal IT capabilities in the market. In making this initiative work they use the commercial experience of the supplier. These synergies can lead to new IT-based businesses, new distribution channels, or even a new electronic market process.

Imitating other firms
A lot of companies are triggered by outsourcing success stories reported in the media. Probably the most famous success story in the 1990s was the case of Eastman Kodak, who outsourced its IS department to IBM. A lot of companies followed this and other examples without really considering the impact of outsourcing.

Loh and Venkatraman (1992b) and Hu et al. (1997) have studied the influence of internal- external-, and mixed communication channels on the imitative behavior of firms regarding outsourcing. Loh and Venkatraman (1992b) found that internal communication is a better predictor for outsourcing behavior than external communication. In addition the authors noted that the tendency to outsource in response to other organizations was stronger after the Kodak success story. Five years later (Hu et al. 1997) found support for internal and external communication channels driving outsourcing decisions. At that time they did not find any evidence for the Kodak effect.

Thinking that external providers manage IS better
Some managers per definition think that external providers can manage IS better than the internal organization. These beliefs are strengthened by the success stories

of outsourcing providers. These managers are likely to forget that outsourcing requires a different governance structure and brings in transaction costs. Therefore organizations must also seriously consider internal options when making outsourcing decisions.

Proponents have enforced the outsourcing decision

In some cases the decision to outsource is forced by certain individuals. These persons can have al kinds of motives push through the outsourcing decision. In such decision often personal goals such as prestige are valued over organizational goals.

5.2.4   Outsourcing risks

Risk is the possibility of loss or injury. A relationship that is often used in risk management is that of Boehm (1991): RE = P(OU) x L(OU), where RE is the risk exposure, P(UO) is the chance of an unsatisfactory outcome and L(OU) is the loss of the outcome. Obviously the probability and loss of a certain outcome is situation specific. However, there are general accepted outsourcing risk factors. (Gonzalez et al. 2000) have questioned 357 large Spanish about the importance the risk factors that are listed in Table 6. They found out that excessive dependence on the provider, possible IS staff opposition, and security issues were the most prominent risk factors.

Risk factor	Consequence
An excessive dependence on the provider	Loss of control
Loss of critical skills and competences	Loss of competitive advantage
Provider's lack of compliance with the contract	Bad service
Unclear cost-benefit relationship	Outsourcing is not the best option
Hidden costs in the contract	Outsourcing turns out to be more expensive
Security issues	Bad image, fraud
Irreversibility of the outsourcing decision	Vendor lock in
Possible IS staff opposition	Decreased productivity
Inability to adapt new technologies	Unable to innovate

Table 6: outsourcing risk factors and their consequences

5.3   Outsourcing configuration attributes

An outsourcing configuration is defined as "a high-level description of the set of choices the organization makes in crafting its IS outsourcing portfolio" (Cullen et al., 2005). An outsourcing configuration can be seen as a blue print of (a part of) an organization's outsourcing strategy.

In sub paragraph 5.3.1 three retrieved outsourcing configuration frameworks are discussed and compared. Decision criteria related to outsourcing scope and outsourcing locations are discussed in more detail in respectively sub paragraph 5.3.3 and 5.3.3.

5.3.1   Outsourcing configuration frameworks

Applied literature on outsourcing configuration frameworks

Author	Research approach	Data source
Cullen et al. (2005)	Empirical (case study involving semi-structured interviews and analysis secondary data sources)	Outsourcing configuration attributes were identified from 49 theory-building cases and subsequently tested in 7 additional cases.
Dibbern et a. (2004)l	Conceptual	Overviews of types of sourcing arrangements and outsourcing mode are grounded in theory
Lee et al. (2004)	Empirical (survey)	311 CIO's from large South Korean organizations

Table 7: applied literature on outsourcing configuration frameworks

Lee et al. (2004) have tested the success of different outsourcing configurations in terms of strategic competence, cost efficiency, and technology catalysis. In defining outsourcing configurations three dimensions are used: degree of integration, allocation of control, and performance period. Degree of integration is the proportion of the IT function that is in- or outsourced (e.g. minimal outsourcing, selective outsourcing, or comprehensive outsourcing). Allocation of control describes which party retains control over processes that are not contractually stipulated (e.g. buy-in, fee-for-service, loose / partnership). Performance period refers to the period of time that parties are committed to each other.

Based on these dimensions Lee et al. (2004) propose three gestalts. Gestalts are feasible sets of internally consistent configurations. Independent gestalts are characterized by minimal outsourcing via short buy-in contracts with the objective of enhancing strategic competence. Arm's length gestalts are characterized by selective outsourcing with medium-term contracts containing detailed specification of obligations. These type of gestalts excel at cost efficiency. Finally, embedded gestalts are characterized by comprehensive outsourcing in long-term relationships with unspecified contracts. Technology catalysis is a typical outcome of embedded gestalts.

Lee et al. (2004) did found evidence that arm's length gestalts and embedded gestalts outperform other gestalts on cost efficiency and technology catalysis respectively. However, no support was found that independent gestalts outperform other gestalts on strategic competence.

Dibbern et el. (2004) mention four parameters for specifying outsourcing configurations: degree of outsourcing (total, selective, and none), outsourcing mode (single vendor / client or multiple vendors / clients), ownership (totally owned by the client, partially owned, or externally owned), and time frame (short-term or long-term). In figure 2 different types of sourcing arrangements are plotted against the dimensions of ownerships and degree of outsourcing. The various modes of outsourcing are reflected in figure 23

A wholly owned subsidiary is created when the IS function is spun off into a separate service unit or company. In this case the organization still holds the ownership, but the IS function itself is totally or selectively outsourced. In the case of joint ventures the spin off is jointly owned by the client and one or more supplier. Joint ventures are based on a strategic partnership. The IS function might also transferred to one or more external parties. Traditional outsourcing is when the complete IS function is outsourced to one supplier. In contrast, selective outsourcing when specific (parts of) IS functions are outsourced usually to multiple suppliers. On the other hand, organization might also choose to execute the IS function themselves. If this has always been the case we talk about insourcing. If a firm previously has outsourced its IS function and want is back this is called backsourcing. Finally firms can also decide to share ownership of the IS function with a supplier or others in the same industry. This option is called facilities sharing.

Degree of outsourcing	Ownership		
	Internal	*Partial*	*External*
Total	Spin-offs (Wholly Owned Subsidiary)	Joint-Venture	Traditional Outsourcing
Selective			Selective Sourcing
None	Insourcing / Backsourcing	Facilities Sharing among multiple clients	N/A

Figure 2: types of outsourcing arrangements (Dibber et al., 2004)

Figure 3 recognizes four different outsourcing modes: simple dyadic, multi-vendor, multi-client, and complex. Simple dyadic relationships involve one client and one supplier. Such relationships can become risky due to vendor opportunism. In mitigating this risk the organization can choose for a multi-vendor arrangement. Sometime organizations in the same industry may have similar needs. For economic reasons a multi-client configuration may me be beneficial in this case. Multi-client relations ships are also referred to as co-outsourcing. Finally there are also relationships that consist of multiple clients and multiple vendors. These relationships are called complex relationships.

Client \ Vendor	*Single Vendor*	*Multiple Vendors*
Single Client	Simple Dyadic (1:1)	Multi-Vendor (1:n)
Multiple Clients	Multi-Client (n:1)	Complex Relationship (n:n)

Figure 3: outsourcing modes (Dibber et al., 2004)

Time frame refers to the length of the outsourcing arrangement. This parameter is not so clear-cut as the others. In the literature time frame is often operationalized as short-term, mid-term, and long-term. However there is no unambiguous understanding about what these terms imply.

Compared to the previous authors, Cullen et al. (2005) have the most extensive outsourcing configuration framework. From 49 theory-building cases seven outsourcing configuration attributes were identified which are described below. The relevance of all seven attributes was validates in seven additional cases.

Scope grouping
Scope grouping describes what services are provided to whom and where. This configuration attribute has already been introduced in the beginning of this chapter. The underlying attributes of scope grouping are: service scope, recipient scope, and geographic scope. Service scope tells what IT functions or IT processes are outsourced and to what degree. For instance, some organizations choose to outsource entire IT functions to one supplier (entire service scope). Both recipient scope and geographic scope classify the receivers of particular IT services. Recipient scope lists the receiving organizational units (e.g., divisions, business units, subsidiaries, etc) while geographic scope covers the physical locations (e.g. state, national, and international).

Supplier grouping

Supplier grouping number classifies the number of suppliers that deliver the requested services. Cullen et al. (2005) distinguish four supplier grouping options: sole supplier, prime contractor, best-of-breed, and panel. Sole supplier is a simple relationship between one client organization and one supplier. Organizations that do not want to be dependent on only one supplier might opt for best-of-breed contracting, also called multi-outsourcing or multi-vendor contracting. Companies that want to accommodate their IT functions with specialized suppliers, but prefer a single point of accountability might consider involving a prime contractor. A prime contractor is a head supplier that subcontracts. The prime contractor is responsible steering the different subcontractors and making sure the whole process runs smoothly. Firms that want to be completely independent of suppliers can go for a panel approach. In a panel setting a number of preferred suppliers can compete for small contracts or work orders.

Financial scale

Financial scale expresses the magnitude of outsourcing in monetary terms, both relatively and absolutely. Relative financial scale covers the percentage of the total IT budget that is spent on outsourcing. Absolute financial scale reflects the value of outsourcing deals within the market.

Pricing framework

Pricing framework refers to the calculation method that is used by the outsourcing organization for paying the supplier. Cullen et al. (2005) found that lump-sum, fixed, and cost-based pricing methods are mostly used in practice. Nowadays organizations do not exclusively choose for one pricing method. Mature outsourcing organizations rather implement a mix of the methods mentioned. With lump-sum the outsourcing organization pays a fixed price for the received service. Lump-sum makes budgeting outsourcing costs more easily for the client organization and helps in setting financial goals. A prerequisite for choosing lump-sum is that demand levels are highly predictable. Unit-based contracts charge a price for each transaction. With unit-prices contracts it is possible to track costs and subsequently charge-back the responsible organizational units. Cost-based contracting lets suppliers charge their costs plus an additional profit in terms of a mark-up percentage or a fixed management fee. This calculation method is a fine alternative when demands of the client organization are flexible and the supply costs of the provider are uncertain.

Duration

Duration covers the agreed length of the contract, including extensions. Cullen et al. (2005) recognize three options: single-term, evergreen, and rollover. In single-term contracts the end of the agreement is set without any option for extension. Because these contracts have a fixed length they can be easily planned within other contracts or within the lifespan of assets. Roll-over contracts do provide options for extensions, after the initial period is over. One option is that the contract is extended automatically, until one party ends the agreement. Another option is that at the en of the initial contact parties decide to continue or not. Evergreen contracts do not have an end date, but go on until one party uses its termination rights. With evergreen contracts the client organization does not have to bother about contract continuity.

The different duration options stated above can be of any length. The cost of contract management is independent of the length of the contract (Dibbern et al., 2004). The

most important factor is the duration structure of the overall configuration, i.e. the supplier must have the sufficient security that he will earn setup-costs and can provide volume discounts and the contract must be flexible enough for changing requirements.

Resource ownership
Resource ownership reflects which party controls and / or owns the different service delivery resources (e.g. assets, facilities, labor).

Commercial relationship
Commercial relationship describes the high-level nature of the relationship between two organizations. Cullen et al. (2005) distinguishes: arms-length, value-add, co-sources, and equity.
Arms-length relationships are characterized by unrelated parties that each have exclusive accountabilities. Transparency is a reason why client organizations choose fro arms-length relationships. In value-add relationships parties are involved in a combination of arms-length services as well as shared business initiatives. The goal of these relationships is to derive a greater mutual benefit. In co-sourced relationships both parties bring in a mix of services, labor, and assets and have integrated accountabilities. Co-sourced relationships often take place at one location. This improves commitment of both parties. In equity-relationships parties have some form of shared equity, e.g. one organization may have an ownership stake in the supplier's business or vice versa. Parties in equity-relationships may also be related to each other, e.g. in case of a subsidiary.

5.3.2 *Synthesis of outsourcing configuration framework*

Table 8 synthesizes the outsourcing configuration attributes mentioned in the previous. Since Cullen et al. (2005) have the most extensive framework, their attributes are used as the basis for the synthesis. Degree of integration (Lee et al. 2004) and degree of outsourcing (Dibbern et al. 2004) corresponds to the combination of scope grouping and financial scale (Cullen et al. 2005). Allocation of control (Lee et al. 2004) includes the attributes of pricing framework, commercial relationship, and resource ownership (Cullen et al. 2005). Performance period (Lee et al. 2004) and time frame (Dibbern et al. 2004) are similar to duration (Cullen et al. 2005). Finally ownership and outsourcing mode (Dibbern et al. 2004) are equivalents for respectively resource ownership and supplier grouping (Cullen et al. 2005).

Configuration attribute	Explanation	References
Scope grouping	What services are provided to whom and where.	Cullen (2005); (Lee et al. 2004); (Dibbern et al. 2004)
Supplier grouping	How many suppliers provide the outsourced services.	(Cullen 2005); (Dibbern et al. 2004)
Financial scale	Degree of outsourcing expressed in financial terms.	(Cullen 2005); (Lee et al. 2004); (Dibbern et al. 2004)
Pricing framework	The method by which the payment to the supplier is calculated.	(Cullen 2005); (Lee et al. 2004)
Duration	The agreed length of the contract including extensions.	(Cullen 2005); (Lee et al. 2004); (Dibbern et al. 2004)
Resource ownership	Which party controls and / or owns the various service delivery resources	(Cullen 2005): (Lee et al. 2004); (Dibbern et al. 2004)
Commercial relationship	The high-level organization to organization nature of relationship structure.	(Cullen 2005): (Lee et al. 2004)

Table 8: synthesis of outsourcing configuration frameworks

5.3.3 Outsourcing scope

Outsourcing scope, or supplier grouping, is already introduced as a configuration attribute in sub paragraph 5.3.1. In this sub paragraph the question "what to outsource" is addressed in more detail. Two aspects should be considered when making outsourcing scope decisions, namely: level of analysis and degree of outsourcing.

Level of analysis
Most theoretical models about outsourcing decision-making considers the IS function as atomic. One exception found is the IS function classification framework of De Looff (1996). In this framework the IS function is classified along three dimensions: information systems, IS components, and IS activities.

Classifying the IS function helps in identifying parts of the IS function that are possible candidates for outsourcing. However Dibbern et al (2004) warn for the danger of possibly overlooking interdependencies between parts. Outsourcing one part that is highly interdependent with another part that remains in-house may cause troubles.

Degree of outsourcing
The degree of outsourcing is measured in different ways in the literature. Lacity et al. (1996) consider the part of the IS function that is outsourced in relation to the IT budget. They have defined four categories: total outsourcing, total insourcing, selective outsourcing and de facto sourcing. Total outsourcing is when an organization outsources a significant part of their IS function representing at least 80 percent of the IT budget. With total insourcing organizations choose to retain 80 percent or more of their IS function in-house, after having considered outsourcing externally. Selective outsourcing covers those organization that perform 20 to 80 percent of their IS function in-house and have outsourced the rest. Finally, de facto sourcing are those organizations that perform their IS function in-house just because they have always done it like this. In contrast with total insourcing, these organizations do not consider the market for outsourcing their IS functions.

Other units that are used in the literature for measuring the degree of outsourcing are the extent to which responsibilities or decision rights of an IS activity are located at the supplier site (Loh, 1994; Loh and Venkatraman, 1995; Nam et al., 1996) and the locus of decisions regarding IS management and operational control of IS functions (Ang and Slaughter, 1998). In addition Loh (1994) and Loh and Venkatraman (1995) have investigated the changes in requirements of specific IS functions within a period of three years. Nam et al. (1996) have used the number of internal employees on specific IS functions that are transferred to the supplier for measuring the degree of outsourcing. Ration of IT outsourcing expenditure to total assets for each firm, resulting in a level of IT outsourcing that is normalized by firm size Loh and Venkatraman (1995).

Applied literature on outsourcing scope factors
In table 10 various outsourcing scope decision models are listened that were retrieved by the literature study. Williamson (1979), Quinn and Hilmer (1995), Lacity et al. (1996), and King (2001) have produced matrices that can be used for assessing

IS functions and IS activities. All these matrices assess IS functions and IS activities on two dimensions.

Williamson (1979) uses the dimensions of asset specificity and frequency for selecting outsourcing candidates. Asset specificity has already been identified as a relevant situational factor and implies to what extent a service is specific for the client organization. Frequency refers to how often a service is required, either occasionally or repetitively. Williamson (1979) suggests to outsource those activities that are non-specific and occur occasionally.

The matrix of Quinn and Hilmer (1995) assesses activities on their potential for competitive edge and degree of strategic vulnerability. Following Quinn and Hilmer (1995) activities that have little competitive edge and little strategic vulnerability are ideal candidates for outsourcing.

Lacity et al. (1996) argue to select outsourcing activities based on their contribution towards business positioning and their contribution towards business operations. Activities with low contribution to business positioning and business operations (useful commodities) are ideal candidates for outsourcing. In addition, activities that are of value to the business operation but fail to distinguish the business from its competitors can be outsourced to best-practice providers.

The framework of King (2001) uses the concepts of core competencies and critical success factors in determining the best outsourcing option. If an IS activity is neither a core competence nor a critical success factor the framework suggest to outsource the activity. When an IS activity is assessed as potential core competence and potential critical success factors a strategic alliance can be established to acquire complementary skills for further development.

Author	Research approach	Data source
Lacity et al. (1996)	Empirical (case study)	62 outsourcing decision at 40 organizations. Interviews with senior business executives, CIO's, consultants, and vendor account managers
King (2001	Conceptual	Based on theory and "lessons learned"
De Looff (19960	Empirical (case study)	IS outsourcing decision framework was tested in 23 outsourcing decisions within 6 large Dutch organizations.
Quinn and Hilmer (1995)	Empirical (case study)	Australian and US companies
Williamson (1979)	Empirical	

Table 9: applied literature on outsourcing scope factors

Synthesis on outsourcing scope factors
As can be concluded from table 11 the matrices of Williamson (1979), Quinn and Hilmer (1995), Lacity et al. (1996), and King (2001) have one or more dimensions in common. The competitive edge dimension of Quinn and Hilmer (1995) resembles the dimension of business positioning from Lacity et al. (1996). Besides the concepts of core competencies and critical success factors that are used in the framework of King (2001) are aspects of these two dimensions.

Factors	Authors
Competitive edge	(Quinn and Hilmer 1995); (Lacity et al. 1996); (King 2001)
Strategic vulnerability	(Quinn and Hilmer 1995); (Lacity et al. 1996)
Asset specificity	(Williamson 1979)
Frequency	(Williamson 1979)
Situational factors	(De Looff 1996)

Table 10: synthesis on outsourcing scope factors

5.3.4   *Outsourcing locations*

National level
Carmel (2003) has produced taxonomy of software exporting countries, including established countries like the US and the UK (see table 12). Software exporting countries are countries that offer IS services like systems development, application development, maintenance, consultancy services, etc. In the taxonomy software exporting countries are grouped among three tiers. The classification is based on three criteria: industry maturity, clustering, and export revenues. Industry maturity refers to the nation's tradition of exporting software. Almost every Tier-1 nation has been exporting software since before 1990. Clustering refers to the number of software enterprises that are part of the software industry. Tier-1 countries have hundreds, and in some cases thousands, of companies that export software products and services. Finally, export revenues denote the size of national software exports. Carmel (2003) note that figures regarding export revenues should be treated carefully. In some countries this data is unavailable or hard to find. Sometimes figures are even biased in the interest of national parties to inflate export revenues. Based in the criteria above the following tiers of software exporting countries have been defined.

Tier-1	Mature software exporting nations	Mostly industrialized nations such as: USA, Canada, UK, Germany, France, Belgium, The Netherlands, Sweden, Finland, Japan, and Switzerland Entrants from the 1990s: Ireland, Israel, and India. Entrants from the 2000s: China and Russia
Tier-2	Emerging software exporting nations	Brazil, Costa Rica, Mexico, The Philippines, Malaysia, Sri Lanka, South Korea, Pakistan, Ukraine, many other Eastern European countries, and several more elsewhere
Tier-3	Infant stage software exporting nations	Cuba, El Salvador, Jordan, Egypt, Bangladesh, Indonesia, Vietnam, and 10–20 others
Non-competing	Non-competing	About 100 of the mostly, small, least-developed countries of the world, including most African, and many Middle-Eastern nations. These nations have few to no software exporting firms

Table 11: 3-tier taxonomy of the world's software exporting nations

Regional level
Offshoring is not just picking a country. The local advantages of a country are only found in a number of cities, like e.g. Hyderabad, Bangalore, Delhi, Mumbai, Budapest, Prague, and Moscow. A lot of foreign companies only seem to focus on these so-called "hot spot cities" when offshoring their IT services. As a consequence a number of negative side-effects is arising in these cities. First, it is getting more and more difficult for companies to find qualified people. Because qualified people are wanted, wages are accelerating rapidly just like turnover rates. Second, the infrastructure of the city is not growing fast enough to be able to satisfy the required capacity. The results are traffic jams, frequent power outages, and communication blackouts.

A lot of companies trouble themselves by still offshoring IT activities to hot spot cities. These companies tend to choose for a familiar environment and often only consider costs and time zone differences. In order to make good outsourcing decisions, however, these firms should also assess factors such as wage-inflation trends, labor supplier, and recruitment costs.

In a research among 28 low-wage countries the McKinsey Global Institute (MGI) found out there is a huge and rapidly growing pool of low-cost talent. More than 90 percent of these people are located outside the current hot spotsFarrell (2006). A share of 72 percent even lives outside India. Some of these people live in popular offshore countries, but in less well-known cities. Others live in emerging countries, Tier-2 nations.

With respect to the future, the MGI research points out that the supply of college-educated talent will exceed demand for the coming years. This trend is caused by the growing number of graduate-students in developing countries. As such the difference in the number of gradates in developed and developing countries will become smaller. The growing supply of young professionals in developing countries also makes that the wages will remain relatively low in the foreseeable future.

Applied literature on outsourcing location factors
Table 12 shows the studies that were retrieved by the literature study. Note that most studies are conceptual. A plausible explanation might be that IS offshore outsourcing is a relatively new practice and therefore a relatively research area.

Author	Research approach	Data source
A.T.Kearney (2004)	Empirical	
Terdiman and Berg (2001)	Empirical	
Heeks and Nicholson (2004)	Empirical	
Carmel (2003)	Empirical	
Carmel and Tjia (2005)	Empirical	
Coward (2003)	Empirical	Semi-structured interviews in 12 US small and medium-sized companies. Respondents included the CEO or the person responsible for managing the outsourcing contract
Carmel and Abbott (2006)	Empirical	Content analysis

Table 12: applied literature on outsourcing location factors

Synthesis of outsourcing location factors
Table 13 synthesizes the various studies mentioned in this sub paragraph on attribute-level. The various attributes are explained in detail below.

Category	Factor	Authors
People	Availability of people	(Terdiman and Berg 2001; Heeks and Nicholson 2002; Carmel 2003; Coward 2003; A.T.Kearney 2004; Carmel and Tjia 2005)
	Education	(Terdiman and Berg 2001; Heeks and Nicholson 2002; Carmel 2003; Coward 2003; A.T.Kearney 2004; Carmel and Tjia 2005)
	English proficiency	(Terdiman and Berg 2001; Heeks and Nicholson 2002; Carmel 2003; Coward 2003; A.T.Kearney 2004; Carmel and Abbott 2006)
	Management skills (project management)	(Carmel 2003); (Coward 2003); (A.T.Kearney 2004)
	Technological skills	(Carmel and Tjia 2005)

Infrastructure	ICT infrastructure	(Heeks and Nicholson 2002); (Carmel 2003); (Coward 2003); (Terdiman and Berg 2001) ; (A.T.Kearney 2004)
	Facilities	(Heeks and Nicholson 2002)
	Quality of life	(Carmel 2003)
Software industry	Concentration	(Heeks and Nicholson 2002); (Carmel 2003)
	Competition	(Heeks and Nicholson 2002); (Carmel 2003)
	Clustering	(Heeks and Nicholson 2002); (Carmel 2003); (Carmel and Tjia 2005)
	Collaboration	(Heeks and Nicholson 2002); (Carmel 2003)
	Quality standards	(Terdiman and Berg 2001); (Heeks and Nicholson 2002); (Carmel 2003)
	Clear national vision and strategy	(Heeks and Nicholson 2002); (Carmel 2003)
	R&D investments	(Heeks and Nicholson 2002)
Political	Political stability	(Terdiman and Berg 2001; Heeks and Nicholson 2002; Coward 2003; A.T.Kearney 2004); (Carmel and Tjia 2005)
	Government support	(Terdiman and Berg 2001; Heeks and Nicholson 2002; Carmel 2003; A.T.Kearney 2004; Carmel and Tjia 2005)
	Regulations	(Terdiman and Berg 2001; Heeks and Nicholson 2002; Coward 2003; A.T.Kearney 2004)
Financial	Wages	(Heeks and Nicholson 2002; Carmel 2003; Coward 2003; A.T.Kearney 2004; Carmel and Tjia 2005).
	Tax benefits	(Heeks and Nicholson 2002; Carmel 2003; Coward 2003; A.T.Kearney 2004; Carmel and Tjia 2005)
	Infrastructure costs	(A.T.Kearney 2004)
	Investments	(Carmel 2003; Carmel and Tjia 2005)
Culture	Power distance (revere hierarchy)	Hofstede; {Carmel, 1999 #130; Terdiman, 2001 #119}
	Uncertainty avoidance (risk avoidance)	{Carmel, 1999 #130; Coward, 2003 #126; Terdiman, 2001 #119}
	Individualism vs. collectivism	Hofstede; {Carmel, 1999 #130; Terdiman, 2001 #119}
	Masculinity vs. femininity (taking care of business, tough values)	Hofstede; {Carmel, 1999 #130; Terdiman, 2001 #119}
	Long-term vs. short-term orientation	Hofstede; {Carmel, 1999 #130; Terdiman, 2001 #119}
National orientation	Familiar with Western business practices	(Terdiman and Berg 2001; Carmel 2003; Carmel and Abbott 2006)
	International linkages	(Heeks and Nicholson 2002; Carmel 2003; Coward 2003)

Table 13: synthesis on outsourcing location factors

People

Availability of people was found to be one of the most stated differentiators of offshore countries. However large concentrations of professionals are only found in a limited number of cities. Since most client organizations only focus on these cities, the supply of people is under pressure. Next to the national labor pool, client organizations should also consider regional labor levels. Client organizations should also take into account attrition rates in countries and cities. Maintaining employees is very important for the sake of continuity. Countries that perform bad on employee retention are: India, The Philippines, Malaysia, and Costa Rica (A.T.Kearney, 2004).

In the articles considered quantity and quality of people are often seen as one thing. Terdiman and Berg (2001) talks about "human expertise and resources", Coward (2003) about "a critical mass of skilled technical people", and (A.T.Kearney 2004) about "people skills and availability". The oval model of (Carmel 2003) includes the factor "human capital", while the software export success model of {Heeks, 2002 #123 has a category called "supply factors and infrastructure".

This research differentiates between the quantity and quality of people. {Carmel, 2003 #124} and (Carmel and Tjia 2005) make a distinction between talent and skills within the labor pool of an offshore county. A skill is something that can be acquired is a few months or a few years. Talent is the ability to see a complex system problem.

Different factors have been suggested to determine the quality of people in offshore nations. (Terdiman and Berg 2001; Heeks and Nicholson 2002; Carmel 2003; Coward 2003; A.T.Kearney 2004; Carmel and Abbott 2006) mention the importance of education which is reflected by the number of reputable universities and technology institutes. (Carmel 2003) and (Carmel and Tjia 2005) distinguish between technological skills taught at technological institutes and business skills, taught at business schools. The importance of management skills, including project management, is also stated by (Coward 2003; A.T.Kearney 2004).

In all articles English proficiency was mentioned as a significant quality factor. English is considered the standard language for communicating globally. Having conversations and documenting in English is commonly accepted in the IT-field. In some offshore nations English proficiency is high because of historical reasons (colonial past) or because English is well grounded in the educational system. Other offshore countries differentiate on other international languages such as Spanish, German, or French (Carmel and Abbott 2006).

Infrastructure
Also infrastructure determines to a large extent the attractiveness of offshore countries. (Terdiman and Berg 2001; Heeks and Nicholson 2002; Carmel 2003; Coward 2003; A.T.Kearney 2004) explicitly address the importance of technological infrastructure, including telecommunications infrastructure and software- and hardware resources. (Heeks and Nicholson 2002) also mentions the necessity of good transportation infrastructures, utilities, and business accommodation. For emerging software nations it is not always possible to have high-quality infrastructure facilities country wide. In this situation infrastructure facilities are often clustered in technology parks

According to (Carmel 2003) offshoring countries should also consider quality of life when selecting an offshore nation. Professionals tend to concentrate in desirable locations where there is quality of place (natural, recreational, and lifestyle amenities), a rich labor market, and high levels of environmental quality.

Software industry characteristics
According to (Heeks and Nicholson 2002; Carmel 2003) attractive offshore software industries should be: concentrated, competitive, clustered, and collaborative. Concentration implies that the industry should have a significant number of software firms including a number of large firms that able to build strong reputations and brands, withstand market fluctuations, and achieve economies of scale. There should

be a climate of competition between these firms. Competition helps to lower down cost and pushes innovation and differentiation. For efficient use of the physical infrastructure and labor- and capital supply firms should be clustered in e.g. technology parks. Clustering also contributes to the interchange of information and knowledge. Besides being concentrated, competitive, and clustered, an attractive software industry should also contain an environment of collaboration. To be effective firms should collaborate in areas like policy advocacy, overseas marketing, market research, and the distribution of best practices.

(Terdiman and Berg 2001; Heeks and Nicholson 2002; Carmel 2003) state that the software industry should be familiar with quality standards like CMM and ISO9000. Quality standards make clients and offshore providers understand each others businesses and the help building trust.

A country's software industry should also clear national vision and strategy (Heeks and Nicholson 2002; Carmel 2003). To remain successful offshore countries should differentiate on other aspects than just costs, e.g. quality, niche software products, or specific vertical markets. An offshore country's succeeding software strategy should be effectively marketed around the world and supported by the government. In order to differentiate software industries should invest in R&D (Heeks and Nicholson 2002).

Political

Offshoring organizations should also consider the political situation in offshore countries. Political stability is an important criterion according to (Terdiman and Berg 2001; Heeks and Nicholson 2002; Coward 2003; A.T.Kearney 2004; Carmel and Tjia 2005). Offshore nations are mostly developing or emerging countries which have historically been more volatile, less stable, less predictable, and less transparent. In some offshore countries client organizations are exposed to increased risks concerning war, terrorism, rioting, uprising, confiscation, expropriation, and currency crises.

A potential offshore country should also have a supportive government (Terdiman and Berg 2001; Heeks and Nicholson 2002; Carmel 2003; A.T.Kearney 2004; Carmel and Tjia 2005). A government who understands and supports the national software strategy and practices an aligned policy. Policies of offshore nations should address issues like intellectual property protection ((Terdiman and Berg 2001; Coward 2003; A.T.Kearney 2004)), export regulations ((Terdiman and Berg 2001; Heeks and Nicholson 2002)), bureaucracy (Coward 2003), and industry investments (Heeks 1998; Terdiman and Berg 2001).

Financial

Wages are a dominant factor when selecting an offshore country (Heeks and Nicholson 2002; Carmel 2003; Coward 2003; A.T.Kearney 2004; Carmel and Tjia 2005). Firms should realize that wages in popular offshore destinations can rise tremendously. If demand is rising, so are salaries. Tax holidays, subsidies, and grants are other financial incentives for companies to choose a particular offshore country (Heeks and Nicholson 2002; Carmel 2003; Coward 2003; A.T.Kearney 2004; Carmel and Tjia 2005). Again, firms need to realize that these financial benefits are often temporarily. Other costs that should be taken into account are infrastructure costs,

such as occupancy-, electricity, and telecommunications costs and the costs of traveling (A.T.Kearney 2004).

Some developing offshore nations first require further investment before any benefits can be obtained (Carmel 2003; Carmel and Tjia 2005). These investments can be made from domestic capital, like government funds, venture capital, investment capital, and equity offerings. However sometime additional financial support is needed in the form of foreign loans, venture capital, investment capital (FDI), foreign equity offering, and foreign aid.

Geographic
First of all the physical distance between the client and the offshore provider can be extensive resulting in long travel times. (Carmel and Abbott 2006) found out that distance is a significant factor with small and medium sized firms choosing nearshore destinations above offshore destinations.

Time zone differences can be both advantageous and disturbing (Coward 2003; Carmel and Abbott 2006). When an offshore provider is located in a different time zone than the client, development time and service time can be increased. Depending on the difference in time zone and the number of providers 24x7 production can be achieved. The downside of working in different shifts is that it makes the communication more difficult.

Culture
In operationalizing national culture {Carmel, 1999 #130; Terdiman, 2001 #119} have used the five dimensions of national culture of {Hofstede, 2005 #132}: power distance, uncertainty avoidance, individualism versus collectivism, masculinity versus femininity, uncertainty avoidance, and long-term versus short-term orientation. Only {Carmel, 1999 #130; Terdiman, 2001 #119} have rephrased three dimensions: power distance is called revere hierarchy, uncertainty avoidance is called risk avoidance, masculinity versus femininity is called taking care of business.

Power distance
Power distance is the degree to which the less powerful members of organizations and institutions accept and expect that power is distributed unequally {Hofstede, 2005 #132}:. In some countries power distance between employees and managers is larger than in other countries.

Uncertainty avoidance
Uncertainty avoidance deals with a society's tolerance for uncertainty and ambiguity {Hofstede, 2005 #132}:. Uncertainty avoiding cultures attempt to minimize the possibility of unstructured situations. This is tried by implementing strict laws and rules, safety and security measures and on the philosophical and religious level by a belief in an absolute Truth. Inhabitants of uncertainty avoiding countries are more emotional, and motivated by inner nervous energy. In contrast, uncertainty accepting cultures are more tolerant towards different opinions. These cultures try to have as few rules as possible and accept multiple religions next to each other. Individuals within uncertainty accepting cultures are rather indifferent and reflective and are not expected by their environment to show their emotions.

Individualism vs. collectivism

Individualism versus collectivism reflects the continuum to which individuals are integrated into groups {Hofstede, 2005 #132}:.. In individualist societies the ties between individuals are loose: each person is expected to take care of his own and his direct family. Collectivist societies exist of people that are integrated in strong groups, often extended families. Individuals within these groups can count on continuous protection in return for unquestionable loyalty.

Masculinity vs. femininity

Masculinity versus femininity refers to the division of roles between women and men {Hofstede, 2005 #132}. Hofstede found that women's values differ less among societies than men's values. Men's values differ from country to country: from very assertive and competitive and totally different with women's value (masculine) to modest and caring and similar to women's values (feminine).

Long-term vs. short-term orientation

Long-term versus short-term orientation refers to the choice for people's efforts: the future or the present and past . Values that are associated with long-term orientation are thrift and perseverance. Short-term orientation is characterized by respect for tradition, fulfilling social obligations, and protecting 'one's face'.

Other cultural criteria

All the other criteria found for assessing culture can be related to the five dimensions above. Deference of authority (Terdiman and Berg 2001) conceptualizes the same thing as power distance. Risk avoidance (Coward 2003), cultural compatibility (Carmel and Tjia 2005), cultural adaptability (A.T.Kearney 2004), and problem resolution (Terdiman and Berg 2001) all are sub-aspects of uncertainty avoidance. This is also the case with personal connection (Coward 2003) and 'desire to save and protect others' dignity and self-respect' (Terdiman and Berg 2001), which can be seen as sub-aspects of individual orientation. Finally 'desire to preserve dignity' (Terdiman and Berg 2001) is a clear property of masculine behavior. Since these criteria do not anything to cultural dimensions of (Hoftstede and Hofstede 2004) they have been left out form Table 13.

International orientation

International orientation tells if an offshore country is capable of doing business in an international context. According to (Terdiman and Berg 2001; Carmel 2003; Carmel and Abbott 2006) offshore countries and their providers should be familiar with Western business practices. One way to achieve this is via international linkages. International linkages can be established via emigrants (Heeks and Nicholson 2002; Carmel 2003; Coward 2003). These people can provide valuable market information and can act as entries to Western businesses. (Coward 2003) even found cases where emigrants were responsible for managing the offshoring contract. Some emigrants have returned to their country of origin and have started their own software business. With the experience they have gained during their stay abroad, re-emigrants know how to serve Western markets. Other means for establishing international linkages are marketing and quality standards (Heeks and Nicholson 2002).

5.4   Outsourcing success measures

In order to evaluate outsourcing strategies on a set of outsourcing success measures is needed. With these measures the outcome of an outsourcing strategy can be described. Besides that, a comprehensive set of successes measures makes it possible to compare different outsourcing strategies.

5.4.1   Applied literature on outsourcing success measures

Retrieved studies that involve the outcome outsourcing strategies are listed in table 15. These studies are compared in the next paragraph.

Author	Research approach	Data source
Grover et al. (1996)	Empirical (survey)	IS top executives in 188 companies
Rouse et al. (2001)	Empirical (survey)	241 Australian IT executives
Dahlberg and Nyrhinen (2006)	Empirical (case study)	Pre-testing with 28 researchers, 8 vendor experts, and 6 outsourcer experts. Verified in 5 cases

Table 14: applied literature on outsourcing success measures

Note that most articles that were retrieved by the literature search are about outsourcing critical success factors. These articles often cover the management of the contract after the outsourcing strategy is implemented. Examples of such articles are: Kim and Chung (2003), Gonzalez et al. (2005), and Gottschalk and Solli-Saether (2005). These articles and others about outsourcing critical success factors were not considered since the present study is solely about outsourcing strategy design.

5.4.2   Synthesis on outsourcing success measures

Probably the most popular measurement instrument for outsourcing success is that of Grover et al. (1996). In the past this instrument was used by Lee and Kim (1999) and Lee et al. (2004). The instrument is aught to measure the satisfaction with outsourcing along nine items that are listed in table 15. In the instrument these items are grouped in three categories: strategic benefits, economic benefits, and technological benefits. Strategic benefits refer to the ability of a firm to focus on its core business and the strategic use of IS, and enhance IS competences and expertise trough contractual agreements with the outsourcing provider. Economic benefits refer to the ability to take advantage of the expertise and economies of scale in human and technological resources of the provider. Technological benefits refer to the ability of a firm to acquire leading-edge IT and to avoid the risk of technological obsolescence.

The outsourcing success measurement instrument of Grover et al. (1996) has been criticized by multiple authors. Rouse et al. (2001) argue that the scale used has not been tested with second generation statistical analysis, so there is limited evidence for the unidimensionality of the scale. As a consequence the reported high reliability may entail large method variance and can be misleading. Dahlberg and Nyrhinen (2006) state that the instrument of Grover et al. (1996) is outdated and does not support current IS services and specific outsourcing objectives. Both Rouse et al. (2001) and Dahlberg and Nyrhinen (2006) have developed new instruments for measuring outsourcing success.

Rouse et al. (2001) have tested the instrument Grover et al. (1996) with the help covariance structure modeling and confirmatory factor analysis and found out that outsourcing success is multidimensional indeed. They have come with a revised structural model where outsourcing satisfaction is achieved with service and

strategic benefits. Service benefit is measured with two items, namely access to skilled personnel and cost reduction. Technological advantages, economies of scale, and cost reduction are the items for measuring the strategic benefits.

Dahlberg and Nyrhinen (2006) have designed and verified a complete new instrument for measuring outsourcing success. They have included more detailed measurement items and have added an additional fourth category called social factors. This category also considers the satisfaction of the user.

In all three studies Likert-scales were used for operationalzing the outsourcing success measures. Grover et al. (1996) and Dahlberg and Nyhrinen (2006) have used 7-point scales while Rouse et al. (2001) used a combination of 7-point and 4-point scales. None of the authors has included definitions of their outsourcing success measures. In the articles outsourcing success measures were presented like:
"we have been able to refocus on core business" (Grover et al., 1996), "obtained better service" (Rouse et al., 2001), and "we have achieved the objective of reducing IT expenditure very well" (Dahlberg and Nyhrinen, 2006).

In table 16 the outsourcing success measures suggested by the different authors are synthesized. Since definitions were lacking explanations have been created that are based on the articles. About half of the success measures are mentioned by multiple authors. Additional success measures are mainly coming from Dahlberg and Nyhrinen (2006). The listed outsourcing success measures are not entirely mutually exclusive and in contain overlap in some cases. For instance, user satisfaction is part of the overall satisfaction with outsourcing.

Outsourcing success measure	Explanation	Authors
Focus on core business	Extent to which outsourcing has made the client been able to focus on its core business.	(Grover et al. 1996); (Dahlberg and Nyrhinen 2006)
Increased IT competence	Extent to which outsourcing has enhanced the IT competences of the client.	(Grover et al. 1996)
Access to key IT	Extent to which outsourcing has provided the client access to key information technologies.	(Grover et al. 1996); (Rouse et al. 2001);
Avoidance of technological obsolescence	Extent to which outsourcing has mitigated the risk of technological obsolescence.	(Grover et al. 1996); (Rouse et al. 2001)
Achieved HR economies of scale	Extent to which outsourcing has achieved scale advantages in human resources.	(Grover et al. 1996); (Rouse et al. 2001)
Access to skilled personnel	Extent to which outsourcing has provided the client access to skilled personnel.	(Grover et al. 1996); (Rouse et al. 2001); (Dahlberg and Nyrhinen 2006)
Achieved technological economies of scale	Extent to which outsourcing has achieves scale advantages in technologies.	(Grover et al. 1996); (Rouse et al. 2001)
Control of IS expenses	Extent to which outsourcing has improved control over IT spendings.	(Grover et al. 1996); (Dahlberg and Nyrhinen 2006)
Satisfied with overall benefits from outsourcing	Extent to which the client is satisfied with the overall benefits of outsourcing.	(Grover et al. 1996)
Cost reduction	Extent to which outsourcing has achieved cost savings.	(Rouse et al. 2001); (Dahlberg and Nyrhinen 2006)
Capability of IT to support the needs of business operations	Extent to which outsourcing has improved fulfilling the IT needs of the business.	(Dahlberg and Nyrhinen 2006)
Management of technology and human resources	Extent to which outsourcing has improved the management of technology and resources.	(Dahlberg and Nyrhinen 2006)
Number of IT based innovations	Extent to which outsourcing has	(Dahlberg and Nyrhinen 2006)

	increased the number of IT-based innovations.	
Reduction in number of IT staff	Extent to which outsourcing has reduced the number of IS employees.	(Dahlberg and Nyrhinen 2006)
Financial freedom and flexibility	Extent to which outsourcing has turned fixed costs into variable costs.	(Dahlberg and Nyrhinen 2006)
Standardized IT environment	Extent to which outsourcing has achieved standardization in the IT environment.	(Dahlberg and Nyrhinen 2006)
Well functioning IT environment	Extent to which outsourcing has improved the performance of the IT environment.	(Dahlberg and Nyrhinen 2006)
Service quality	Extent to which outsourcing has improved the reliability, responsiveness, and assurance of services.	(Dahlberg and Nyrhinen 2006)
Service availability	Extent to which outsourcing has improved the availability of services.	(Dahlberg and Nyrhinen 2006)
User satisfaction	Extent to which users are satisfied with outsourcing	(Dahlberg and Nyrhinen 2006)

Table 15: synthesis on outsourcing success measures

6   ONTOLOGY

An ontology is an explicit specification of a conceptualization (Gruber, 1993). Ontologies are build up out of the concepts (or classes), attributes, relationships, and contain instances. The ontology depicted in figure 4 has been derived from the theory synthesis.
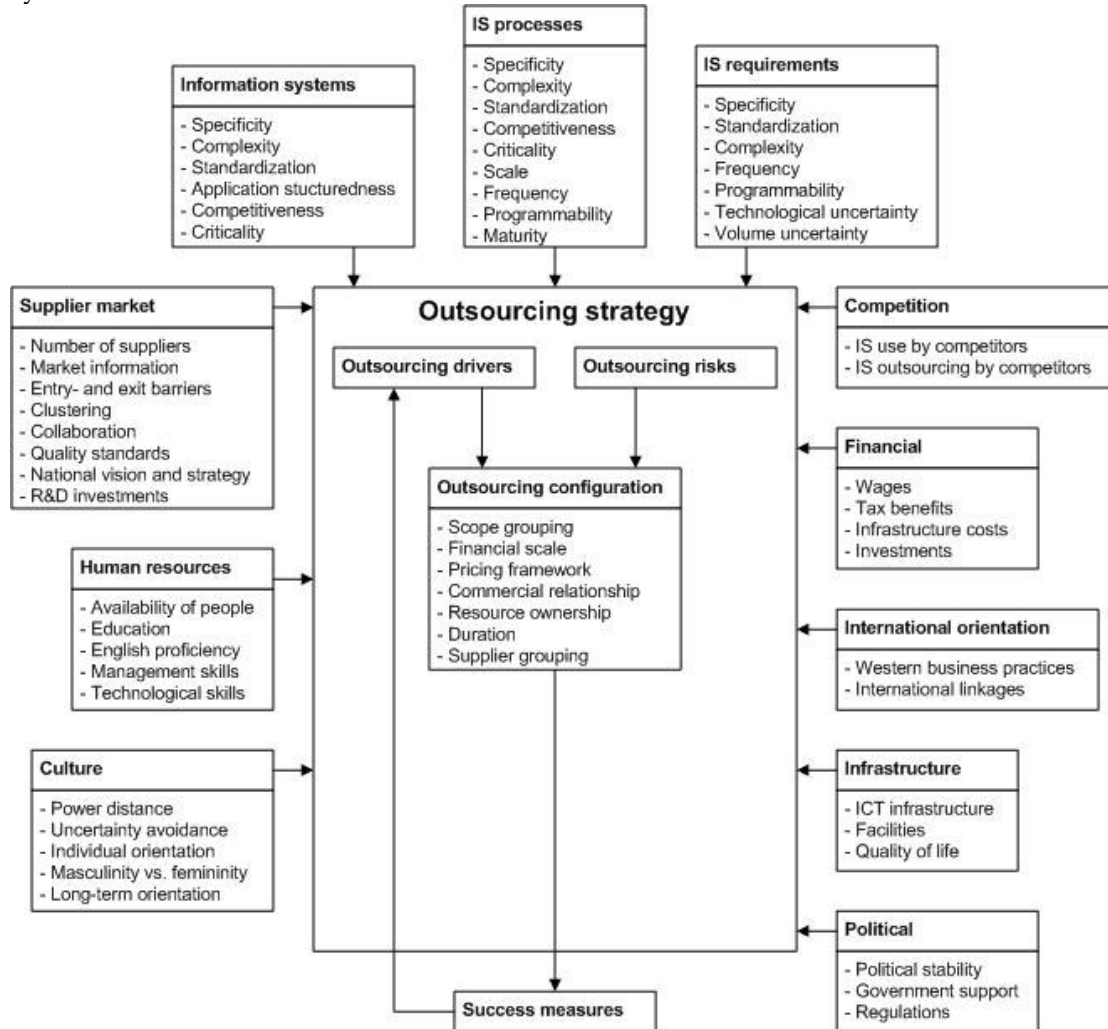
Figure 4: outsourcing strategy ontology

The outsourcing strategy ontology contains fifteen concepts and 61 attributes. Four outsourcing strategy concepts are distinguished and eleven situational concepts.

6.1   Situational concepts

Information systems
This concept refers to the information systems of the organization. In the section about outsourcing situational factors six attributes have been identified related the organization's information systems: specificity, complexity, standardization, application structuredness, competitiveness, and criticality. The guidelines for determining the outsourcing scope discussed in paragraph 5.4.2 also include IS-related situational factors, namely: competitive edge, strategic vulnerability, business contribution, asset specificity, and frequency. Most of these criteria have already been identified: asset specificity was already mentioned, competitive edge is a synonym for competitiveness, while strategic vulnerability is a different way for

expressing the critically of an information system. Frequency, the attribute left over, refers to the number of times a client organization needs a service and does not apply to the level of the information system.

IS processes
IS processes consist of the activities needed to establish and sustain information systems, e.g. analysis, development, and maintenance. They are characterized by the attributes stated in paragraph 5.2.5: specificity, standardization, complexity, criticality, competitiveness, scale, frequency, programmability, and maturity.

IS needs
IS needs cover the current and future needs of the organization. Specificity, complexity, frequency, programmability, and standardization also apply to IS needs. Future IS needs have some degree of uncertainty regarding the quantity (volume uncertainty) and the quality (technological uncertainty). Uniformity of requirements is similar to standardization and is therefore excluded from the ontology.

Supplier market
This concept is a collection of the attributes stated in paragraph 5.2.1 and paragraph 5.4.3 including market information, entry- and exit barriers, concentration , competition, clustering, collaboration, quality standards, national vision and strategy, and R&D investments. Concentration is analogous to number of suppliers and is left out. In contrary to clustering and collaboration, competition is a logical consequence resulting from the number of suppliers in a certain market. Therefore competition also has been removed as an attribute for describing the supplier market.

Human resources
Human resources is described according to the attributes listed in paragraph 5.4.3: availability of people, education, English proficiency, management skills, and technological skills. These criteria are especially important when the organization is searching for IS capabilities or wants to improve the IS organization.

Culture
Culture reflects the differences and commonalities in national culture between the client organizations and the outsourcing provider. National culture is described along the dimensions of (Hoftstede and Hofstede 2004) stated in paragraph 5.4.3: power distance, uncertainty avoidance, individual orientation, masculinity versus femininity, long-term orientation. In general client organizations can best choose an outsourcing country that has a similar national culture than the home country of the client.

Competition
Competition is described by the two criteria introduced in paragraph 5.2.1: IS use by competitors and IS outsourcing by competitors. According to (De Looff 1996) the way the competition uses IS increases the strategic importance of IS for the organization. This makes outsourcing a less attractive option. The opposite is also true, when the competition has outsourced their IS, strategicness of IS is less important making outsourcing more attractive.

Financial

Cost is an important aspect in outsourcing strategies. Financial related information is captured in one concept that is build around the attributes discussed in paragraph 5.4.3.. These attributes are: wages, tax benefits, infrastructure costs, and investments. All these attributes affect the choice of selecting an outsourcing provider.

International orientation

National orientation reflects if an outsourcing country is familiar with Western business practices and has international linkages around the world. These aspects are rather important for doing business internationally.

Infrastructure

This concept describes the quality of the infrastructure of an outsourcing country. The underlying attributes are derived from paragraph 5.4.3. and include ICT infrastructure, facilities (transportation infrastructure, utilities, business accommodations), and quality of life.

Political

This concept includes three attributes: political stability, government support, and regulations. All three attributes are copied from paragraph 5.4.3. Political factors affect continuity and should be considered seriously when outsourcing to an unfamiliar country.

6.2 Outsourcing strategy concepts

Of the four strategy concepts outsourcing configuration is the only one that has underlying attributes, namely: scope grouping, financial scale, pricing framework, commercial relationship, resource ownership, duration, and supplier grouping. The other three concepts just contain instances of outsourcing drivers, outsourcing risks, and outsourcing success measures. The instances of these concepts are listed in the theory synthesis. In the previous chapter it was found that outsourcing success measures mainly describe to what extent outsourcing drivers have been achieved. In the ontology this is reflected by the feedback arrow pointing from success measures to outsourcing drivers.

7 TESTING

7.1 Cases

In total ten cases have been analyzed: five Capgemini-cases, two competitor-cases, and three client-cases. A short introduction for each of these cases is given below.

7.1.1 *Capgemini-cases*

7.1.1.1 *PensionCo*

PensionCo is a pension fund for employers and employees in the Dutch government and educational sector. The internal IS organization is serving two clients: PensionCo and another pension fund. When the economic climate was deteriorating in 2003 the 400 fte size IS organization was receiving less work. As a consequence there was only work for 250 people.

PensionCo felt responsible for its IS staff and was not intended to fire surplus employees. As an alternative PensionCo together with Capgemini has explored the possibilities for establishing a joint-venture. The plan was to accommodate the majority of PensionCo's IS staff in this joint-venture. This joint-venture would provide IS services in the area of consultancy, systems development, exploitation, and support both to PensionCo and Capgemini clients. As such the complete IS staff could be utilized. The joint-venture would be a Capgemini entity in which PensionCo was supposed to have significant equity. This way PensionCo could still had influence in decisions concerning their IS staff.

Eventually PowerCo decided not to implement a joint-venture, but to continue with a slightly smaller internal IS organization. The reason for this decision was that PowerCo expected to need all current IS resources for future IS activities.

7.1.1.2 *PublicCo*

PublicCo wanted to integrate its IS function in order to achieve two goals: cost reduction and lowering down the administrative burden for companies and the public. However, IS capabilities were missing, both in number and in quality, to make this transition happen within a considerable amount of time, at least before 2012. Outsourcing was considered to speed things up.

The idea was to keep the application maintenance function in-house and outsource both application development and infrastructure management. Several supplier scenarios have been thought of. Multi-vendor sourcing was not found feasible since PublicCo did not have the capabilities to direct multiple suppliers. On the other hand, farming out the entire service scope to just one supplier was found to risk full. Eventually PubliCo has decided to adopt a supplier configuration containing one prime contractor and multiple implementation parties. In this configuration the prime contractors defines parcels and subcontracts (parts of) these parcels to the implementation partners. PucliCo wants to have suppliers that perform in the future situation and contribute in the transformation process.

Currently PuclicCo is still performing IS in-house with the help of contractors. As a first step towards PuclicCo is focusing more and more on specific suppliers.

7.1.1.3 *ING BankTrade*

ING BankTrade is responsible for carrying out financial transactions for their business clients. In this process ING BT uses a highly customized software package. ING BT is not satisfied with the supplier; maintenance is poor and changes are not delivered on time and according quality. On the other hand ING BT lacks the capabilities of directing the supplier properly. As a result version control currently is a mess leading to progressive maintenance costs.

In order to lower down and control the cost of application maintenance ING BT has decided to migrate to a new and stable version. This was the driver for considering different outsourcing configurations. One alternative was to buy the source code of the package and make a different party responsible for application development and application maintenance. The configuration that was eventually chosen was to retain the current supplier for application development and outsource the application management function, including staff, to a second supplier that was capable directing the software supplier.

The outcome of the outsourcing strategy could not be determined, since the implementation is still going on.

7.1.1.4 *ING Leven Collectief*

ING-LC is a pension fund just like PensionCo. The information systems of ING-LC are old and the knowledge of these systems resides in the heads of just a few IS workers. This threats the continuity of the organization. Besides ING-LC needs more IS capacity, but is experiencing employee turnover instead. Finally ING-LC wants to reduce the expenses on its legacy systems.

The arguments stated above have made ING-LC decide to gradually outsource its legacy systems to a service provider. The service provider will be responsible for both application development and application maintenance. The IS staff of ING-LC will not be transferred to the provider.

Currently one system has been transferred to the service provider. ING-LC seems to be satisfied and performance is good.

7.1.1.5 *LotteryCo*

LotteryCo is one of the largest lotteries in the Netherlands. The lottery wanted to replace its core systems for three reasons: reduce complexity (also in the number of suppliers), reduce costs, and fasten time-to-market. However, LoteryCo did not have the IS capabilities to do this migration alone. As such outsourcing alternatives from three different niche suppliers were considered. The first supplier was only offering IS expertise. Selecting this supplier would imply that LotteryCo was still responsible fro the transformation. The offer of the second supplier comprised a standard package and application maintenance. Ultimately, supplier three was offering to take over entire business processes, including marketing and product development. External developments have made LotteryCo decide to put the supplier selection on hold.

7.1.2 Competitor cases

7.1.2.1 BeerCo

BeerCo is a large international beer manufacturer. In the past BeerCo has taken over several breweries that each had their own IS organization. As a consequence BeerCo is coping with various IS organizations with different cultures and information systems

Centralization and standardization were the two main drivers for outsourcing. Besides Beerco wanted to reduce IS expenses. In order to reach centralization and standardization quickly, BeerCo first outsourced its infrastructure. Three parcels were distinguished in the infrastructure domain: SAP hosting, desktops, and networks. BeeCo has not thought of different supplier groupings in advance. The selection process could result in just one supplier for all three parcels or multiple suppliers. Eventually one supplier was selected for SAP hosting and networks and a different supplier fro the desktops parcel. The next step is to outsource the application domain. BeerCo is planning to outsource application maintenance as a service. Application development will be contracted as separate projects.

At the moment the transition of the infrastructure domain is still taking place. As such the outcome of this outsourcing case could not be determined.

7.1.2.2 PowerCo

PowerCo is a Dutch power company that was dealing with a large number of IS suppliers and subcontractors. The power company was not entirely satisfied with some of its suppliers and was looking for better results. Since its liberalization the Dutch energy sector has become very dynamic. To be prepared for a possible acquisition PowerCo had the objective of consolidating their application management- and infrastructure management functions.

Regarding the outsourcing scope PowerCo simply distinguished two domains: the application domain and the infrastructure domain. In selecting suppliers capabilities were considered more important than the price. Eventually the entire application domain was given to a supplier that was already providing some application services in the past. The total infrastructure management was assigned to a new supplier.

Most efficiency was gained by the reduction in the number of suppliers including the removal of all subcontractors. In the application domain the quality has been improved, resulting in les rework.

7.1.3 Client-cases

7.1.3.1 Fortis

Fortis is an international organization that provides banking and insurance services to personal, business, and institutional customers. The company ranks among Europe's top 20 financial institutions and in market leader in the Benelux region.

Multiple outsourcing initiatives are taking place within Fortis, both on group- and businesss unit level. The following two initiatives have been analyzed in the light of this research.

Fortis Benelux

After a successful pilot study Fortis Benelux has decided to accept the possibility of outsourcing web development activities to a Turkish subsidiary. This subsidiary is not a dedicated IS organization, but a Turkish bank that was acquired by Fortis who happened to posses a lot of expertise on web development.

All business units in the Benelux may decide to outsource their web development projects to Turkey. Based work load estimations the business can decide to carry out the project internally, in Turkey, or by a commercial supplier.

Using Turkey as a supplier has given Fortis Benelux access to valuable web development skills. Besides outsourcing to Turkey has proven to reduce both time-to-market and cost. The commodity businesses are very satisfied with the Turkish supplier. However, the more advanced business lines are slightly negative, because outsourcing to Turkey increases overhead.

Fortis Merchant & Private Banking

Merchant & Private Banking offers banking products and financial services to large international companies and institutional clients, medium-sized enterprises and entrepreneurs, and private banking clients. Within MPB some critical systems are running on Tandem technology. Fortis has classified Tandem as end-of-life-technology and wants to get rid of it by means of outsourcing.

Since the governance maturity of MPB was insufficient and some staff members needed to be transferred Fortis has only considered Dutch suppliers. Besides, most expertise on Tandem is located in the Netherlands. Still it was hard to find reasonable number of Tandem suppliers.

The initial strategy was to assign application management and infrastructure management to two different suppliers. During the bidding process, that almost took for 1,5 years, some suppliers have been merged. Since the bidding process already lasted longer than expected, Fortis decided to transfer both application management and infrastructure management to a single provider.

This outsourcing initiative has resulted in that Fortis released itself from obsolete technology. The initial business case also included some financial advantages. However, Fortis was unable to collect these advantages since organizational restructuring costs were higher than expected.

7.2   Findings

The findings from the expert interviews are described below. They are discussed correspondingly to the research framework: situation factors first, outsourcing drivers next, followed by outsourcing risks, outsourcing configurations, and finally outsourcing success measures. In the analysis of the situational factors and the outsourcing risks three groups of experts are distinguished: Capgemini consultants, competitor consultants, and client experts. In this part only the most significant quotes are stated. All the other relevant quotes can be found in appendix III.

7.2.1 *Situational factors*

In this study outsourcing strategy design is perceived as a weakly-structured problem, which has a different logic in every situation. The intention of table 17 is not to compare the different case situations and look for resemblances. The purpose is rather to show to what extent theoretical situational factors were mentioned by the different experts, discriminating between Capgemini consultants, competitor consultant, and clients.

In total 25 of the 54 situational factors were mentioned by one or more experts. Only six factors were mentioned by three or more experts, namely: IS complexity, IS process maturity, quality standards, availability of people, technological skills, and uncertainty avoidance. When looking at table 17 it shows that there is not much consistency among the three expert groups in the different situational factors mentioned. The only two attributes that were mentioned by experts from all groups are IS process maturity and supplier market quality standards. The quotations in the appendix reveal that differences in the use of situational factors are even stronger: in some cases experts, even within the same group, have different meanings for situational factors or use the factors differently. In the following the findings concerning the situational concepts are discussed in more detail.

Situational factor	Capgemini cases	Competitor cases	Client cases
Information systems			
Specificity			
Complexity	PUBLICCO, ING-LC	PowerCo	Fortis Benelux
Standardization	ING-BT	PowerCo	
Application structuredness			
Competitiveness			ABN AMRO Bank, Fortis
Criticality		BeerCo	
IS processes			
Specificity			
Complexity			
Standardization		BeerCo	
Competitiveness			ABN AMRO Bank, Fortis
Criticality			
Scale			
Frequency			
Programmability			
Maturity	ING-BT, LotteryCo, PensionCo,	PowerCo	Fortis Benelux, Fortis MPB
IS requirements			
Complexity	ING-LC		Fortis Benelux
Frequency	ING-LC		
Programmability			
Technological uncertainty			
Volume uncertainty	PensionCo		Fortis Benelux
Supplier market			
Number of suppliers	Fortis MPB		
Market information			
Entry- and exit barriers			
Clustering			
Quality standards	PensionCo	BeerCo, PowerCo	ABN AMRO Bank, Fortis Benelux
National vision and strategy	LotteryCo		
R&D investments			
Human resources			
Availability of people	ING-LC, PensionCo, ,	PowerCo	Fortis Benelux
Education			
English proficiency			

Management skills			
Technological skills	ING-LC, LotteryCo		Fortis Benelux, Fortis MPB
Culture			
Power distance			
Uncertainty avoidance	LotteryCo	PowerCo	Fortis Benelux
Individual orientation			
Masculinity vs. femininity			
Long-term orientation			
Competition			
IS use by competitors			Fortis MPB
IS outsourcing by competitors			Fortis Benelux
Financial			
Wages		PowerCo	Fortis Benelux
Tax benefits			Fortis
Infrastructure costs			
IS outsourcing by competitors			
International orientation			
Western business practices			
International linkages		PowerCo	
Infrastructure			
ICT infrastructure			Fortis Benelux, Fortis MPB
Facilities			
Quality of life			
Political			
Political stability			Fortis
Government support		BeerCo	
Regulations		BeerCo	Fortis

Table 16: found situational factors

Information systems

Remarkably is that information systems competitiveness was only mentioned by the client experts and not the consultants. Perhaps clients are more aware of the strategic capability of their information systems and are more conscious of retaining those systems. However, both clients have different perspectives on the competitiveness of their information systems. In general Fortis counts IT to their core business. As such only generic systems are potential candidates for outsourcing. In contrast, ABN AMRO perceives information technology as non-core and thinks that IT should belong to specialized vendors.

Complexity of information systems was not found to be an outsourcing inhibitor, but rather an outsourcing constraint or outsourcing risk. In the case of ING-LC outsourcing the complex and badly documented legacy systems was perceived as a risk. But since ING-LC was losing knowledgeable staff, the company was forced to outsource its legacy systems in order to secure continuity. Fortis MPB classified its Tandem systems as end-of-life technology and wanted to get rid of these systems and outsource them. Separating the applications layer from the complex infrastructure was found not to be easy. As such both applications maintenance and infrastructure management had to be outsourced to one supplier.

"Technically, who is going to do the infrastructure part? The plan was to outsource it to a different data centre. Compliancy was not the issue. The problem was the complexity of our own infrastructure. You can not remove it just like that".

In one case it was found that two information systems attributes are interrelated, namely standardization and complexity. The application portfolio of PowerCo was build up of many custom-made applications and included very few standard packages. According to the expert this made outsourcing applications management more difficult than a commodity functions such as infrastructure management.

In the BeerCo case criticality was found to be a true outsourcing inhibitor. The brewery's manufacturing systems are critical for its core business of brewing. Outsourcing these systems was perceived as too risky. If the beer production stagnates the brewery would lose millions. Therefore these systems were kept in-house.

IS processes
In the previous paragraph it was stated that ABN AMRO and Fortis consider the competitive advantage of their information systems both in a different way, respectively non-core and core. The processes that bring fort and maintain these systems should be treated with the same consideration. Processes related to commodity systems can be outsourced and processes involving strategic information systems should be kept in-house. As a result, the same process could be outsourced for one system and kept in house for another.

Process maturity was one of the few situational factors mentioned by Capgemini consultants, competitor consultants, and clients. In the PensionCo- and PowerCo case consultants were using CMMI as a measure for roughly estimating the maturity of their client's systems development processes. Process maturity does not only apply to systems development processes, but also to IT governance. In the cases of ING-BT and PensionCo it was stated that the maturity of the governance process is more critical than the maturity of the outsourced activity. After all, outsourcing implies that activities are transferred to specialized suppliers. However, in order to achieve the expected results, the supplier should be directed properly by the client organization. For this reason Fortis Benelux decided not to outsource its web development activities to a commercial supplier, as the company judged it's own governance to be poor.

"Web-development is a commodity for us. So in principle this can be outsourced. Because the bank's maturity in this area is rater low, we acknowledged that if we went to an external supplier we could run into problems since we are not so good in directing."

IS requirements
The complexity of IS requirements was mentioned in two cases: Fortis Benelux and ING-LC. Within Fortis Benelux requirements complexity is determined by the type of business. Fortis Benelux owns advanced business domains that the supplier may find difficult to understand. The volume of requirements is also highly variable for each business domain within Forits Benelux. Within half a year time a profitable business may be forced to cut the IS budget. The supplier needs to be highly flexibile to address such dynamic demand, i.e. volume uncertainty. A similar remark was made for the PensionCo case.

Supplier market
The evaluation criteria stated in the ontology all apply to the level of the supplier market. However in most cases the suppliers were evaluated individually. Fortis MPB was the only exception. Only a small number of suppliers in the Netherlands were capable of supporting the obsolete Tandem systems of the bank. All these suppliers were considered. The small number of suppliers did not keep Fortis MPB from outsourcing their systems.

Quality standards
Quality standards were mentioned as supplier evolution criterion by Capgemini consultants, competitor consultants, and clients. However it was found that experts threat this criterion differently. ABN AMRO Bank wants to have relationships with high quality suppliers. For ABN AMRO Bank these are the suppliers with high CMMI levels. Fortis Bank also considers the supplier's CMMI level, but additionally takes into account the maturity of the internal organization. The bank thinks that in order to establish a good relationship the maturity of the supplier must not be too far away from their own organization. From the perspective of cost choosing a supplier with a high CMMI level is not always the best option as well. According to the consultant in the PowerCo case client organizations should first ask themselves what quality they really need. Clients should bear in mind that additional quality costs money and is not always necessary.

The PowerCo case consultant mentioned two additional supplier evaluation criteria: shared interest and size. According to the consultant outsourcing organizations should wonder for which suppliers they could be an interesting client. Eager suppliers will positively influence the outsourcing relationship. In addition it was stated that client organizations should select a supplier of similar size. If the supplier is much bigger than the client the danger exists that the client is not considered important by the supplier. As such the client may receive unsatisfactorily management attention.

Next to the criteria mentioned, subjectivity also plays a role in supplier assessments. In the BeerCo case subjective judgment was stated as a critical success factor.

"Gut feeling played an important role in the way they have selected parties. They have tried to quantify the selection process with criteria and weight scores. That is fine, but I think if you ask people about their assessments you will discover a certain degree of subjectivity. I think there is nothing wrong with that, since a good relationship has a good balance between formal agreements and partnership aspects. If one is not addressed properly, you know it will not succeed."

Human resources
Availability of people as a criterion for evaluating resource pools was mentioned by two Capgemini consultants, one competitor consultant, and one client expert. This criterion was often considered together with another attribute: technological skills. Apparently both quantity and quality is considered important in the search for resources. When one of these two criteria is below minimum level, clients and suppliers are exploring sourcing option outside their organizations or even outside their national borders. The suppliers of PowerCo and ING-LC did not have sufficient

local resources to satisfy the demand of their customers. In both cases a portion of the work was transferred to the supplier's back offices in India.

Culture
Uncertainty avoidance was the only cultural attribute that was recognized. However, it was recognized quite often: by one Capgemini consultant, one competitor consultant, and one client expert. Only in the case of Fortis Benelux the national culture of the supplier was considered. Cultural resemblance was one of the reasons that made Fortis Benelux decide to outsource web development activities to a Turkish subsidiary. According to Fortis the culture in Istanbul is compatible with that of Western companies. This type of reasoning is explained here as an act of uncertainty avoidance. Apparently Fortis Benelux wants to have a supplier with a national culture that is close to the Western culture. Apparently the bank wants to have a supplier with a culture that is close to its own.

Next to comparing national culture, experts are also comparing the organizational culture of the client with that of potential suppliers. In the BeerCo case and the LotteryCo case consultants stated that the culture of the client and the supplier do not necessarily have to be similar. In order to realize change it may be better to select a supplier with a different culture.

"We did not have the intention to completely fit with the LotteryCo culture. That is not what we wanted, since their internal capabilities were insufficient. We wanted to select a party that could act a role model, but that was no too far away from the current situation of LotteryCo."

Competition
Only Fortis was found to consider the IS strategies and outsourcing decisions of competitors. One argument for Fortis MPB to outsource Tandem was that the competition is also retiring from Tandem. Therefore Fortis MPB concluded that the strategic value of Tandem would be nil.

Fortis Benelux has considered particular outsourcing configurations of ING Bank and ABN AMRO Bank. However in both cases, Fortis Benelux deliberately choose for a different configuration.

"I am not an advocate of multi-sourcing like ING Bank recently did with their desktop support in which a number of suppliers are directed by one vendor. I think that vendor management must be one of the core competences of the future IS organization. We also considered establishing a captive centre, just like ABN AMRO Bank did. This was not found desirable, because you need to have a rather fast ramp up in order to satisfy your business case within three years. The impact of this on the internal organization does not make it an option for the moment."

Financial
In the majority of the cases cost reduction was one of drivers for outsourcing. Remarkable is that only three experts mentioned financial criteria for evaluating suppliers. Consultants in the BeerCo case and the PowerCo case stated that client organizations are not limited to low-cost countries when they want to achieve significant cost reductions. The BeerCo case consultant argued that Western suppliers are also capable of realizing significant cost reductions.

"If your sourcing strategy prescribes a cost saving of x percent, you just go to the market and say that you want to save x percent. Which party is going to realize that and which party can do it even better? This might be a Dutch party. It also might be a party that offshores a significant part. "

According to the PowerCo case consultant there does not have to be any difference in cost between Indian pure players and Western suppliers that have back offices in India. Both parties make use of the same labor pool and have sufficient scale size. However, to remain competitive Western suppliers do need to transfer activities as much as possible to their back offices. Keeping too much work onshore will force up the price. Fortis Benelux has experienced that cost advantages in India are counterbalanced by increased coordination costs. Although the labor costs of Turkey are higher than in India, in the end the overall price is about the same.

According to the theory study, some client organizations outsource activities to particular countries to benefit from local tax regulations. Fortis views tax benefits just as short-term benefits. The bank rather has a supplier in a country with a healthy national economy. By introducing tax benefits developing countries such as India are their profitable IT industries in building up a strong national economy.

In case of global outsourcing the theory suggests searching for suppliers that have international experience. However, international orientation as a supplier selection criterion was mentioned by none of the experts. One reason for lacking support might be that six cases included outsourcing to Western suppliers. Most of these suppliers have back offices in offshore nations, but this is not of concern to the client. The client organization is only communicating with the local front office.

In the PowerCo case international orientation was mentioned as a client evaluation criterion. According to the consultant companies with limited global experience should not directly outsource directly to offshore supplier.

"My opinion is that if you are a party that has not much experience with doing business on an international scale, you can better establish an offshore relationship via a Western supplier instead of directly doing business with an Indian pure player. This way the people in the front office can settle down cultural differences."

International orientation
In case of global outsourcing the theory suggests searching for suppliers that have international experience. However, international orientation as a supplier selection criterion was mentioned by just one expert. One reason for lacking support might be that six cases included outsourcing to Western suppliers. Most of these suppliers have back offices in offshore nations, but this is not of concern to the client. The client organization is only communicating with the local front office.

In the PowerCo case international orientation was mentioned as a client evaluation criterion. According to the consultant companies with limited global experience should not directly outsource directly to offshore supplier.

"My opinion is that if you are a party that has not much experience with doing business on an international scale, you can better establish an offshore relationship via a Western supplier instead of directly doing business with an Indian pure player. This way the people in the front office can settle down cultural differences."

Infrastructure

The relevancy of infrastructure in outsourcing decisions could be traced back to only two cases involving the same client. Only minimal support was found for ICT infrastructure as a supplier selection criterion. In the case of Fortis Benelux the infrastructure of the Turkish supplier proved to be a factor in deciding what IS activities to outsource. The supplier's advanced infrastructure was highly feasible for web technologies, but not for old technologies such as Cobol. In the Fortis Benelux case the internal infrastructure proved to be just as critical as the infrastructure of the supplier. Establishing connectivity and running simulations within the suppliers IS environment was difficult due to the complex infrastructure within Fortis. The attentive reader will recall, that the complex infrastructure of Fortis MPB was also a constraint in the outsourcing of Tandem. In that case, the constraint was support for the attribute Complexity within the concept of Information systems

Political

The political situation in international supplier markets was only considered in the cases of BeerCo and Fortis. In one of the preliminary interviews that were conducted in the beginning of this research Fortis Benelux expressed its concern about political stability of India. The conflict with Pakistan and large-scale poverty were mentioned as critical factors concerning India's political climate. Also because of the perceived political situation Fortis has decided not to outsource IS activities to India yet.

None of the case companies did consider the regulatory environment of foreign supplier markets. Instead, the influence of local regulations and working councils was expressed. In case of a multinational, such as BeerCo, regulations may differ from country to country.

"You are dealing with various countries. This means that in every country you have to meet the local working council. Every country has specific rules, processes, and games. In France this is not very easy. In Germany it is not easy either. In the Netherlands they are rather flexible if you have a good dialogue. These are all aspects you have to consider when designing your sourcing strategy."

The influence of working councils in Belgium, where the core of Fortis is located, is quite large. Traditionally these working councils are against outsourcing, especially if it involves lay offs. This limits the possibilities of outsourcing. Fortis also takes into account whether it is easy to get a visa or working permit for the supplier's staff. Acquiring a visa for Polish employees, for instance, is relatively easy.

7.2.2 Outsourcing drivers

Table 17 relates the outsourcing drivers found in the cases to the drivers stated in the theory synthesis. It was found that the studied outsourcing strategies were not based on just one outsourcing driver, but involved multiple drivers. In six cases three or more outsourcing drivers were stated. In the case of ING-LC even four outsourcing drivers were mentioned. Two of these drivers are listed in table 17, namely: acquire IS capabilities and reduce cost. In addition, ING-LC's overall goal of outsourcing was to secure the continuity of its organization. Lastly, the fact that ING-LC was coping with housing problems also proved to be an argument for outsourcing. Sometimes the outsourcing drivers stated in the individual cases were found to be interrelated. Business drivers leaded to IS drivers, and IS drivers resulted in outsourcing drivers.

Outsourcing driver	Cases
Quantify benefits of IS	
Reduce cost	PUBLICCO, ING-BT, ING-LC, LotterCo, BeerCo, PowerCo, ABN AMRO Bank, Fortis Benelux, Fortis MPB
Improve cost predictability	LotteryCo
Free cash	
Focus on core competencies	BeerCo, ABN AMRO Bank
Shift IS responsibilities to provider	ING-BT
Acquire capabilities	PUBLICCO, ING-LC
Improve IS performance	PUBLICCO, LotteryCo, Fortis Benelux
Change culture of IS organization	
Professionalize IS organization	PowerCo
Focus on strategic use of IS	
Improve business performance	LotteryCo, Fortis Benelux
Transform business processes	
Expand business	
Imitating other firms	
Thinking that external providers manage IS better	
Proponents have enforced the outsourcing decision	

Table 17: found outsourcing drivers

Reduce cost

Reducing cost was found to be the most popular outsourcing driver. In nine cases cost reduction was one of the arguments for outsourcing. However, achieving cost reduction was not the highest priority in every case. For ABN AMRO Bank cost reduction is leading, while Fortis values time-to-market above lowering cost. Alternatively, PowerCo considers capabilities more important than cost.

Focus on core competencies

In the theory core competence focus was found to be one of the main drivers for organizations outsourcing IS activities. In this study core competence focus as an argument for outsourcing was only mentioned in two cases: BeerCo and ABN AMRO. Considering their outsourcing strategies it is not likely that the remaining organizations do count IT to their core business, except for Fortis. However none of the involved experts explicitly mentioned core competence focus as outsourcing driver.

Acquire IS capabilities

Outsourcing per definition implies making use of external capabilities. Perhaps that is why acquiring IS capabilities was only mentioned in two cases as outsourcing driver. In the PUBLICCO case external capabilities were required in order to realize the transition towards an integral information supply. However, at ING-LC external expertise was needed to anticipate human capacity problems at first instance.

Improve performance

The interrelation between outsourcing drivers mentioned earlier was especially apparent with IS performance drivers and business performance drivers. In the PUBLICCO-case two clear IS performance drivers were stated: improving the quality and the efficiency of the information function. Reducing time-to-market (Fortis Benelux, LotteryCo) is a typical business driver. However, this driver was also found to affect the IS level. Fortis Benelux planned to fasten time-to-market by reducing the lead time of web development project using the efficient skills of its Turkish subsidiary. The outsourcing strategy of LotteryCo involved reducing time-to-market by replacing the core information systems with the help an external party.

High ambition outsourcing drivers

The outsourcing strategies considered did not contain any so-called high ambition drivers, like transforming business processes, business expansions. The theory synthesis refers to authors that suggest outsourcing as an enabler for these ambitions. However, in the interviews no evidence was found that such drivers have actually been considered.

Irrational drivers

Irrational drivers, such as imitating other firms, thinking that the external provider manages IS better, or any personal goals enforcing the outsourcing decision, were mentioned in none of the cases. However, irrational drivers are usually invisible. These drivers may arise from personal interests or positions and therefore are not always expressed explicitly. Experts may therefore have overlooked the presence of irrational drivers or might even have had their own, relating to their companies wider interest.

Additional outsourcing drivers

Other outsourcing drivers, additional to those from table 17, that were found are: secure continuity, consolidation, and housing shortage. In the cases of ING-LC, PensionCo, and PowerCo securing continuity was the higher level goal of outsourcing. ING-LC was expecting human capacity problems and was forced to outsource its complex legacy systems in order to secure continuity. In contrast PensionCo was facing overcapacity regarding its IS staff. PensionCo needed to downsize but at the same time PensionCo wanted to secure continuity for both its organization and its IS staff. Consolidation was mentioned in three cases as outsourcing driver. In two cases consolidation was found to be a mean to achieve higher level goals: reduce cost (ABN AMRO Bank) and secure continuity (PowerCo). In the BeerCo case consolidation was reached by standardizing and centralizing the IS function. A remarkable driver for outsourcing was found in the case of ING-LC. In this case insufficient work places proved to be one of the arguments for outsourcing.

7.2.3   Outsourcing risks

The risks stated in table 18 are coming from a single, large-scale study and are considered general outsourcing risks. Table 18 shows to what extent the risks were mentioned by Capgemini consultants, competitor consultants, and experts at the client side. As can be seen the majority of the risks was not mentioned by the experts. As such it might be interesting to investigate to what extent other studies report on these risks.

Outsourcing risk factor	Capgemini cases	Competitor cases	Client cases
An excessive dependence on the provider	PublicCo	BeerCo, PowerCo	Fortis Benelux
Loss of critical skills and competences		BeerCo	ABN AMRO Bank, Fortis
Provider's lack of compliance with the contract			
Unclear cost-benefit relationship			
Hidden costs in the contract			
Security issues			
Irreversibility of the outsourcing decision			
Possible IS staff	ING-LC, PensionCo	BeerCo	Fortis MPB

opposition			
Inability to adapt to new technologies			

Table 18: found outsourcing risks

An excessive dependence on the provider

The risk of an excessive dependence on the provider was mentioned by four experts. According to one Capgemini consultant, a competitor consultant, and a client expert dependency increases when outsourcing to just one supplier and can be mitigated by outsourcing to multiple suppliers. However, the BeerCo case consultant stated outsourcing to one supplier does not have to increase the risk of dependency as long as the client makes sure that he has defined standards services within logical parcels and a proper contract.

Loss of critical skills and competences

Loss of critical skills and competences was not stated explicitly as a risk. However, as described in the previous paragraph ABN AMRO Bank and Fortis do consider the competitiveness of their information systems and accompanying processes. Likewise in the BeerCo case also the criticality of candidate information systems was considered.

Possible IS staff opposition

The risk of employee resistance was mentioned by consultants and one client. In the cases of ING-LC, BeerCo, and Fortis MPB staff was transferred to the supplier. This was also the plan for PensionCo. In all these cases experts were confronted with opposing employees. In the case of ING-BT the expert and the client deliberately chose not to transfer any staff just to avoid any organizational commotion. At least in these cases staff transfer proved to be a catalyst for opposing employees.

Additional outsourcing risks

The risks stated in table 18 are derived from just one article. Next to these risks additional ones were identified. Complex information systems and immature governance processes were already stated as risk factors in the previous sub paragraph. A dragging decision process proved to be a risk in the case of Fortis MPB. Because stakeholders could not agree the outsourcing decision took more time than expected resulting in higher costs. As a result the financial targets stated in the business case were not met. Furthermore it was found out that the supplier also faces risks in outsourcing arrangements. In the intended joint venture between PensionCo and Capgemini the latter party was profit responsible. In case of disappointing results Capgemini was bearing the loss. Distance was mentioned as a risk by the expert in the Fortis Benelux case. However, mitigating this risk by flying in Turkish employees would be too costly.

In conclusion, one can say that the concept of risk seems to mirror the other concept as soon as lack of information or other cause leads to a change that attributes within the concept turn out to be worse than expected. For example, when the governance processes might turn out to be less mature than needed for a success in outsourcing, this was seen as a risk.

7.2.4   Outsourcing configurations

In table 19 the cases are listed in which experts were referring to outsourcing configuration attributes.

Outsourcing configuration attribute	Cases
Scope grouping	PublicCo, ING-LC, BeerCo, Powerco
Supplier grouping	LotteryCo, PublicCo, BeerCo, PowerCo, ABN AMRO Bank, Fortis Benelux, Fortis MPB
Financial scale	ING-LC, BeerCo, PowerCo, Fortis MPB
Pricing framework	ING-LC, LotteryCo, PowerCo, Fortis Benelux, Fortis MPB
Duration	ING-LC, LottertCo, PensionCo
Resource ownership	ING-LC, PensionCo, PowerCo
Commercial relationship	PublicCo Fortis Benelux

Table 19: found outsourcing configuration attributes

Scope grouping

Outsourcing scope refers tot the activities, information systems, and hardware that are outsourced. Most experts were only referring to the candidate and outsourced processes and not the underlying information systems. In the cases of ABN AMRO, PowerCo, and Fortis MPB three IS activities were outsourced: applications development, applications maintenance, and infrastructure management. BeerCo has outsourced infrastructure management and is planning to farm out applications development and applications maintenance too. In the case of PensionCo it was suggested to outsource the entire IS service scope, including consultancy services, systems development, exploitation, and support. Both ING-cases involved outsourcing of applications development and applications maintenance. The suggested outsourcing scope in the PUBLICCO case comprised applications development and infrastructure management. Finally, the Fortis Benelux case involved outsourcing web development.

In three cases the outsourced information systems were mentioned. ING-LC outsourced six of its legacy systems, Fortis MPB farmed out its obsolete Tandem systems, and ING-BT outsourced the applications management of its standard package.

So, in describing the outsourcing scope most experts stayed at the level of just calling the outsourced activities. Only the BeerCo case consultant made a more detailed description of the outsourcing scope. In this case the infrastructure management was subdivided into three parcels: "workplaces", "SAP hosting", and "networks". Recall, this consultant stated that subdividing the outsourcing scope into different parcels decreased the risk of supplier dependency. According to the PowerCo case consultant client organizations should think of outsourcing parcels in advance, but should make these decisions not too difficult or too complex. For this reason only two parcels were recognized at PowerCo: applications management and infrastructure management. In the PUBLICCO more thought was given in defining parcels. According to the consultant parcels were elaborated on the level of services.

"What we have actually done is defining groups of services that had to be assigned to a single provider in terms of control. Actually you have parcels in which you distinguish clusters from a governance point of view. This tells you which parties can be positioned on what clusters."

In sub paragraph 7.2.3 it was already recognized that experts considered the complexity, standardization, competitiveness, and criticality of information systems in their outsourcing scope decisions. In the cases of Fortis and BeerCo respectively competitiveness and criticality proved to be reasons for not outsourcing such

systems. For Fortis competitiveness also applies to the IS processes in support of strategic.

A last finding involves the establishment of the outsourcing scope. In the BeerCo case it was found that the outsourcing drivers determined the sequence of outsourcing IS activities. In order to meet the drivers of standardization and centralization, first the infrastructure was outsourced. Following the BeerCo case consultant a standard and centralized infrastructure is an enabler for outsourcing applications development and applications maintenance relatively fast.

Supplier grouping
The outsourcing configurations studied showed differences in the number of suppliers. Outsourcing to one supplier occurred in three cases. In the case of PensionCo one supplier was suggested, but this case involved a joint venture. Fortis MPB initially wanted to have one supplier for applications development and applications maintenance and one supplier for infrastructure management. However, since the applications domain and the infrastructure domain were highly intertwined, Fortis MPB was forced to outsource all three IS activities to just one supplier.

Multi-outsourcing or best-of-breed outsourcing was recognized in three cases. At PowerCo applications management and infrastructure management each were assigned to one supplier. Within ABN AMRO and BeerCo single IS activities are divided among multiple suppliers. ABN AMRO has five different suppliers for applications development and BeerCo has two suppliers for infrastructure management. In the previous sub paragraph it was already mentioned that according to some experts multi-outsourcing decreases supplier dependency. In the ABN AMRO case multi-sourcing was also used to foster competition resulting in better pricing. Finally, the BeerCo case consultant stated that extensive outsourcing deals require the expertise of multiple parties.

According to the PUBLICCO case consultant client organizations should possess developed governance capabilities to be able to direct multiple suppliers. PUBLICCO did not have such capabilities. Therefore prime contractor was assigned that could direct the various sub contractors.

Financial scale
Only the experts in the BeerCo- and the PowerCo case did express the financial scale of the outsourcing arrangements. The experts involved in the ING-LC case and the Fortis MPB case expressed the magnitude of outsourcing the number of fte's involved. Most of the experts referred to these numbers without any further consideration. Except the PowerCo case consultant mentioned that the size of the outsourcing deal determines to what extent suppliers are attracted.

"The size was not very big. This means that a wide range of parties are interested including the midrange segment. For large suppliers the size was interesting too but from a different order than an outsourcing deal with a large multinational"

Pricing framework
Pricing framework refers to the (combination of) pricing methods. Pricing framework was mentioned experts in the cases of ING-LC, LotteryCo, BeerCo, PowerCo, and

Fortis Benelux. In the LotteryCo case three different outsourcing configurations were suggested each having three different pricing methods. According to the consultant involved the applied pricing method depends on the client's requirements and the amount of responsibility that is transferred. When the client needs a variable amount of resources over a certain time a unit-based pricing method would be the best choice. However, if the client is sure about its future requirements fixed price mechanisms would probably the best option. Finally, when the supplier takes over a part of the business shard profit mechanisms are probably the best choice.

Duration
The duration of the outsourcing agreement was mentioned in three cases. In the LotteryCo- and the PensionCo case the suggested contract duration was five years. The duration of the ING-LC contract was set on five years also. This is in line the general trend of organizations choosing for short-term or mid-term outsourcing contracts from three to five years. In all the three cases consultants of Capgemini were involved. However, none of the consultants did mention the rationale behind setting the contract length on five years. Terms regarding the continuation of outsourcing contracts were not mentioned either, also not in the other cases.

Resource ownership
Resource ownership describes which party controls and / or owns the various service delivery resource: assets (e.g. software, hardware), facilities (e.g. office site, data center), and labor. In the majority of the cases the client organization was hiring or was intended to hire human resources that would perform the work at the supplier's site. In addition, LotteryCo was thinking of buying a standard package and even considered transferring entire business functions to the supplier.

In the cases of ING-BT, BeerCo, and Fortis MPB staff was transferred to the supplier. PensionCo was also planning to transfer its staff externally. However, PensionCo felt responsible for its staff and wanted to be able to secure the jobs of these people. For this reason a joint venture was suggested in which PensionCo would have significant ownership.

Commercial relationship
In three cases experts were referring to the type of outsourcing relationship that was suggested and the specific arguments for these relationships. These cases involved PensionCo, PUBLICCO, and Fortis Benelux.

As stated earlier, PensionCo planned to have a joint venture relationship with the supplier in order to secure employment for its staff. In the PUBLICCO-case the consultant advised the client to establish co-sourcing relationships with external parties. In this case co-sourcing implied two things. First, the client and the supplier are responsible for designing the future situation and configuring an optimal workforce containing both internal and external resources. Second, all parties have shared responsibilities concerning the transition towards the future situation.

In the case of Fortis Benelux an outsourcing relationship was established with a recently acquired bank in Turkey. With every new acquisition Fortis also searches for present IS capabilities that may be useful for other organizational units. Subsequently Fortis examines to what extent these capabilities can be made available for others throughout the organization. The suppliers of these capabilities are treated as

commercial parties implying that for every project a bill is send to the client. This way clients save out contract and legal costs and at the same time are getting more mature with outsourcing. However, this construction also required that clients have to satisfy with additional compliancy regulations.

7.2.5 *Outsourcing success measures*

Only in the cases of ABN AMRO Bank, PowerCo, Fortis Benelux, and Fortis MPB the success of the planned outsourcing strategies could be determined. In both ING-cases and the BeerCo-case the implementation of the outsourcing strategy was still taking place during the time of expert interviews. Finally, PublicCo, LotteryCo, and PensionCo decided not to implement their outsourcing strategies at all. The limited number of implemented outsourcing strategies may be a cause for only recognizing a sub set of the outsourcing success measures stated in table 20. The outcomes emphasized by the exerts are described below.

Outsourcing success measure	
Focus on core business	
Increased IT competence	PowerCo, Fortis Benelux
Access to key IT	Fortis Benelux
Avoidance of technological obsolescence	Fortis MPB
Achieved HR economies of scale	
Access to skilled personnel	
Achieved technological economies of scale	
Control of IS expenses	
Satisfied with overall benefits from outsourcing	
Cost reduction	PowerCO, ABN AMRO Bank, Fortis Benelux
Capability of IT to support the needs of business operations	
Management of technology and human resources	
Number of IT based innovations	
Reduction in number of IT staff	ABN AMRO Bank
Financial freedom and flexibility	
Standardized IT environment	
Well functioning IT environment	
Service quality	
Service availability	
User satisfaction	PowerCo, Fortis Benelux, ABN AMRO Bank

Table 20: Found outsourcing success measures

Cost reduction

Four of the implemented outsourcing strategies included the objective of lowering costs to some degree. In two cases outsourcing has achieved cost reductions. The ABN AMRO expert expected that the cost targets set in the initial outsourcing strategy would be reached. The expert was aware of three business units that were already saving costs in conformance with their business cases. Although cost reduction was not the primary driver in the PowerCo case, outsourcing has slightly reduced IS expenses. Costs were mainly saved because of less re-work concerning systems development. At the time interview Fortis Benelux has outsourced a work package encompassing a total size of 10 fte and has reached the break-even point set in the business case. By the end of the year Fortis Benelux expects to have increased the outsourced activities up to 45 fte and achieve a total cost reduction of thirty percent. Fortis MPB also had the objective of lowering down costs when outsourcing information systems that were considered obsolete. However, the outsourcing decisions process took much longer than expected. Consequently the financial targets stated in the business case could not be realized.

Avoidance of technological obsolescence
Fortis MPB did outsource to avoid the risk of technological obsolescence. In this case the information systems outsourced that were already obsolete. Outsourcing these systems has freed internal employees for other activities. This will way people stay motivated in doing their jobs.

Reduction in numbers of IS staff
In two cases outsourcing has reduced the number of IS staff. ABN AMRO Bank has reduced both the number of internal employees and the number of external suppliers. The bank went from 150 suppliers to 5 preferred suppliers. At PowerCo the number of internal employees remained the same, but the number of external suppliers was reduced to two. In both cases this leaded to cost savings

User satisfaction
User satisfaction was mentioned in three cases. In the case of PowerCo and Fortis Benelux experts were explicitly referring to the business users. According to the PowerCo expert the satisfaction of the business user is just as important as the satisfaction of the IS department. ABN AMRO Bank also recognizes consumer satisfaction.

Time-to-market
In the theory synthesis reducing time-to-market was not identified as a specific outsourcing driver or as an outsourcing success measure. However, in three cases experts were also describing the result of their outsourcing strategies in terms of time-to-market. In the PowerCo case development time was shortened and as such costs were saved. ABN AMRO Bank sets development targets that are based on historic data. Currently, the bank is not able to meet these targets. Fortis Benelux expects that lead time will increase as more experience is gained with outsourcing. Within Fortis Benelux the actual lead time is also determined by the complexity of the business domain.

8   CONCLUSIONS

This research had the objective of creating and testing a decision model for designing successful strategies and choosing aligned outsourcing configurations. In this research outsourcing strategy design is perceived as a weakly-structured problem. Therefore creating a prescriptive model that tells decisions makers what outsourcing strategy to choose based on certain conditions was not found feasible. Instead an ontology was created providing a holistic overview of the domain of outsourcing strategy design. This ontology includes: situational factors, outsourcing drivers and outsourcing risks, outsourcing configuration attributes, and outsourcing success measures. The ontology was tested in ten different war story sessions held with experts from consultancy firms and clients. Based on the literature that was reviewed and the experts that were interviewed the following conclusions can be drawn.

8.1   Inconsistencies in the theory

The ontology is based on theory that was retrieved by a structured literature search. The literature review has revealed that the theory on outsourcing strategy design knows inconsistencies. In some articles outsourcing strategy aspects are defined differently, while other articles do not state any definitions at all. Besides, some authors were found to use recursive definitions. These inconsistencies make it difficult to synthesize and elaborate on the current literature on outsourcing strategy design.

8.2   Discrepancy between theory and practice

Analyzing the expert's outsourcing decisions with the ontology has revealed a discrepancy between the literature applied and the practice of the experts. More than half of the situational factors were not mentioned by any of the experts. Also a large number of risk factors that are considered to be general for outsourcing were not mentioned. According to the literature both these types of factors affect the possibilities of an outsourcing strategy and therefore should be addressed when designing such strategies

Multiple explanations can be given for experts not mentioning these factors. Perhaps the omitted factors were not relevant in the cases considered. However considering the number of cases and the importance of these factors in the literature this is not a likely explanation. Alternatively, experts may have considered these factors but have forgotten to mention them. May be these factors are common sense to the experts or do they think the factors are not important enough to mention. A worse cause would be that experts are not aware of the omitted factors. In addition bounded rationality may cause that experts can only handle a limited number of situational factors. In result of both of these causes, experts are designing outsourcing strategies based on incomplete information. This may have severe consequences for the outcome of the strategy.

Conversely experts were also mentioning factors that were not stated in the ontology. The importance of IT governance in outsourcing strategy design was mentioned by six experts. IT governance is crucial in managing the supplier and therefore should already be considered during the outsourcing strategy design process. Two experts even stated that organizations with low IT governance maturity have limited possibilities for outsourcing.

Another additional factor that was found concerns the outsourcing decisions the organization has made in the past. Current outsourcing arrangements affect the solution space of new outsourcing strategies. They also may be a driver for organizations changing the current outsourcing strategies. In two cases organizations have reconsidered their outsourcing strategies because they were not satisfied with their current supplier.

A fourth finding has to do with the application area of the criteria stated in the ontology. In the retrieved literature a clear distinction is made in criteria for evaluating clients and evaluating suppliers in the outsourcing decision. This distinction has been adopted in the ontology. However, from the analysis it was found that this distinction is not so clear cut after all. Typical supplier evaluation criteria, like the use of quality standards and the availability of human resources, proved to be valid for the client too.

8.3   Subjective judgement

Subjective judgement is often applied when deciding on weakly-structured problems. The ontology does not include any criteria for subjective judgement, since measuring is subjectivity is complex if not impossible. However clues were found that subjectivity plays a significant role in outsourcing strategy design. In the PowerCo case subjectivity played a dominant role in the choosing the outsourcing supplier. Besides, the decision rationale behind some of the outsourcing configurations was not clear in all cases. This can also point to subjective judgement.

8.4   Limitations of the research

This research included a number of limitations. First, findings are based on only a small number of cases. From the seventeen expert interviews that were conducted, only ten were included in the analysis. Investigating weakly-structured problems requires the opinions of more experts. Second, in each case only one expert was interviewed. The result was one truth in every case. Interviewing multiple experts involved in the same case gives the opportunity for cross validating findings. Third, only four of the considered outsourcing strategies have been implemented. In the remaining cases it was not possible to determine the success of the outsourcing strategies and the underlying outsourcing configurations.

8.5   Future research

In order to better fit the ontology with reality additional research is required. With action research experts are asked to review the ontology in multiple sessions. Alternatively, experts may be asked to solve small cases studies with the ontology. The advantage of action research is that feedback is gathered across multiple iterations. Besides, confronting the expert with the actual ontology reduces ambiguities. However, the ontology may also bias the expert or block him from stating any additional criteria he is aware of.

Next to the ontology case-based reasoning (CBR) was also suggested as a decision tool for outsourcing strategy design. With CBR current problem situations are solved by referring back to similar cases from the past. In order to retrieve these cases they need to be indexed according to logical search terms. The current ontology does provide a rich set of logical search terms. The ontology is therefore a starting point

for a CBR tool. However, as concluded, a first step in designing such a CBR tool would need to be to fine tune the ontology.

REFERENCES

A.T. Kearney (2004). Making Offshore Decisions: A.T. Kearney's 2004 Offshore Location Attractiveness Index.

Akmanligi, M. and Palvia, P.C. (2004). Strategies for Global Information Systems Development. Information & Management, Vol. 42, pp. 45-59.

Ang, S. and Slaughter, S.A. (1998). Organizational Psychology and Performance in IS Employment Outsourcing and Insourcing. International Conference on Systems Sciences, Hawaii.

Apte, U.M. and Sobol, M.G. (1997). IS Outsourcing Practices in the USA, Japan, and Finland: A Comparative Study. Journal of Information Technology, Vol. 12, pp 298-304.

Boehm, B. (1991): Software Risk Management: Principles and Practices. IEEE Software, Vol. 8, No. 1, pp. 32-41.

Carmel, E. (2003). The New Software Exporting Countries: Success Factors. The Electronic Journal of Information Systems in Developing Countries. Vol. 13, No. 4, pp. 1-12

Carmel, E. and Abbott, P. (2006). Configurations of Global Software Development: Offshore versus Nearshore. Proceedings of the 2006 International Workshop for Global Software Development for the Practitioner.

Carmel, E. and Tjia, P. (2005). Offshoring Information Technology: Sourcing and Outsourcing to a Global Workforce. Cambridge University Press.

Cohen, L. and Young, A. (2005). Multi-sourcing: Moving Beyond Outsourcing to Achieve Growth and Agility. Boston: Harvard Business School Publishing.

Coward, C.T. (2003). Looking Beyond: Factors that Shape the Global Outsourcing Decisions of Small and Medium Sized Companies in America. The Electronic Journal of Information Systems in Developing Countries. Vol. 13, No. 11, pp. 1-12.

Cullen, S., Seddon, P.B., and Willcocks, L.P. IT Outsourcing Configuration: Research into Defining and Designing Outsourcing Arrangements, Journal of Strategic Information Systems, Vol. 14, pp. 357-387.

Dahlberg, T. and Nyrhinen (2006). A New Instrument to Measure the Success of IT Outsourcing. Proceeding of the 39th Hawaii International Conference on Systems Sciences.

Dahlberg, T. and Nyrhinen, M. (2006). A New Instrument to Measure the Success of IT Outsourcing. Proceedings of the 39th Hawaii International Conference on System Sciences, Hawaii.

De Looff, L.A. (1996). A Model for Information Systems Outsourcing Decision Making. Doctoral thesis. Deflt: Delft University of Technology.

Dibbern, J., Goles, T. et al. (2004). Information Systems Outsourcing: A Survey and Analysis of the Literature. ACM DATA BASE, Vol. 35, No. 4, pp. 6-102.

DiRomualdo, A. and Gurbaxani, V. (1998). Strategic Intent for Outsourcing. Sloan Management Review, Vol. 39. No. 4, pp. 67-80

Dreyfuss, C. and Karamouzis, F. (2002). A Sourcing Strategy is Essential for Business Effectiveness. Gartner. ID number: K-18-3841

Earls, A. (2004). End of the Affair: Bringing Outsourced Operation Back In-house. Computerworld, No. 31.

Farrell, D. (2006). Smarter Offshoring. Harvard Business Review, Vol. 84, No. 6, pp. 84-92.

Fowler, A. and Jeffs, B. (1998). Examining Information Systems Outsourcing: A Case Study From the United Kingdom. Journal of Information Technology, Vol. 13, No. 2, pp. 111-126.

Gonzales, R., Gasco, J., and Llopis, J. (2005). Information Systems Outsourcing Success Factors: A Review and Some Results. Information Management & Computer Security. Vol. 13, No. 5, pp. 399-418.

Goo, J. Kishore, R., and Rao, H.R. (2000). A Content-Analytical Longitudinal Study of the Drivers for Information Technology and Systems Outsourcing. International Conference on Information Systems, Brisbane, Queensland, Australia.

Gottschalk, P. and Solli-Saether, H. (2005). Critical Success Factors from IT Outsourcing Theories: An Empirical Study. Industrial Management & Data Systems, Vol. 15, No. 6, pp. 685-702.

Grover, V., Cheon, M.J., and Teng, J.T.C. (1996). Effects of Service Quality and Partnership on the Outsourcing of Information Systems Functions. Journal of Management of Information Systems. Vol. 12, No. 4, pp. 89-116.

Gruber, T. (1993). A Translation Approach to Portable Ontology Specifications. Knowledge Acquisition, Vol. 5, No. 2, pp. 199-220.

Heeks, R. and Nicholson, B. (2004). Software Export Success Factors and Strategies in 'Follower' Nations. Competition & Change. Vol. 8, No. 3, pp. 267-303.

Hofstede, G. and Hofstede, G.J. (2004). Culture and Organizations: Software for the Mind. New Tork: McGraw-Hill.

Hsu, C.L., Chiu, C., and Hsu, P.L. (2004). Predicting Information Systems Outsourcing Success Using a Hierarchical Design of Case-Based Reasoning. Expert

Systems and Applications, Vol. 26, pp. 435-441.

Hu, Q., Saunders, C., and Gebelt, M. Research report: Diffusion of Information Systems Outsourcing, a Reevaluation of Influence Sources. Information Systems Research, Vol. 8, No. 3, pp. 288-301.

Hui, P.P. and Beath, C.M. (2004). The IT Sourcing Process: A Framework for Research. Annual Meetings of the Academy of Management 2001.

Kim, S. and Chung, Y.S. (2003). Critical Success Factors for IS Outsourcing Implementation from an Interorganizational Perspective. Journal of Computer Management Information Systems. pp. 81-90.

King, W.R. (2001). Developing a Sourcing Strategy for IS: A Behavioural Decision Process and Framework. IEEE Transactions on Engineering Management, Vol. 48, No. 1, pp. 15-24.

Kolodner, J.L. (1992). An Introduction to Case-Based Reasoning. Artificial Intelligence, Vol. 6, pp. 3-34.

Krippendorff, K. (2004). Content Analysis: An Introduction to its Methodology. Thousand Oaks: Sage Publications.

Lacity, M.C. and Hirschheim, R. (1993a). The Information Systsem Outsourcing Bandwagon. Sloan Management Review, Vol. 35, pp. 73-86.

Lacity, M.C. and Willcocks, L.P. (1998). An Empirical investigation of Information Technology Sourcinjg Practices: Lessons From Experience. MIS Quarterly, Vol. 22, No. 3, pp. 363-408

Lacity, M.C., Willcocks, L.P., and Feeny, D.F. (1996). The Value of Selective Outsourcing. MIT Sloan Management Review, Vol. 37, No. 3, pp. 13-25.

Landis, K.M., Mishra, S., and Porello, K. (2005). Calling a Change in the Outsourcing Market. Deloitte.

Lee, J.M., Miranda, S.M., Kim, Y.M. (2004). IT Outsourcing Strategies: Universalisictic

Lee, J.N. and Kim, Y.G. (1999). Effect on Partnership quality on IS outsourcing: Comceptual Framework and Empirical Validation. Journal of Management Information Systems, Vol. 15, No. 4, pp. 29-61.

Loh, L. (1994). An Organizational-Economic Blueprint for Information Technology Outsourcing: Concepts and Evidence. International Conference on Information Systems, Vancouver, Canada.

Loh, L. and Venkatraman, N. (1992). Determinants of Information Technology Outsourcing: A Cross-Sectional Analysis. Journal of Management Information Systems, Vol. 9, No. 1, pp. 7-24.

Loh, L. and Venkatraman, N. (1992b). Diffusion of Information Technology Outsourcing: Influence Sources of the Kodak Effect. Information Systems Research, Vol. 3, No. 4, pp. 334-358.

Loh, L. and Venkatraman, N. (1995). An Empirical Study of Information Technology Outsourcing: Benefits, Risks, and Performance Implications. International Conference on Information Systems, Amsterdam, the Netherlands.

Marcolin, B.L. and Ross, A. (2005). Complexities in IS Sourcing: Equifinality and Relationship Management. The DATA BASE for Advances in Information Systems (ACM), Vol. 236, No. 3., pp. 29-46

Mol, M.J., Matthysens, P. et al. (2003). A Technological Contingency Perpsective on the Depth and Scope of International Outsourcing. Proceedings of the 4th IGMS CIBER Research Forum, Philadelphia: Temple University.

Mylonopoulos, N.A. and Theoharikis, V. (2001). Global Perceptions of IS Journals. Communications of the ACM, Vol. 44, No. 9, pp. 29-33

Nam, J.F., Rajagopalan, S. et al. (1996). A Two-Level Investigation of Information Systems Outsourcing. Communications of the ACM, Vol. 39, No. 7, pp. 36-44.

Pandey, V. and Bansal, V. (2003). A Decision-Making Framework for IT Outsourcing using the Analytical Hierarchy Process. International Conference on Systemics, Cybernetics, and Informatics 2004, Hyderabad, India.

Prahalad, C.K. and Hamel, G. (1990). The Core Competence of the corporation. Harvard Business Review, Vol. 63, No. May-June, pp. 79-91.

Quinn, J.B. and Hilmer, F.G. (1995). Strategic Outsourcing. The McKinsey Quarterly, No. 1, pp. 48-67.

Rouse, A.C, Corbitt, B.J., and Aubert, B.A. (2001). Perspectives on IT Outsourcing Success: Covariance Structure Modelling of a Survey of Outsourcing in Australia. The 9th Europoean Conference on Information Systems, Bled, Slovania.

Scardino, L. et al. (2006). Gartner on Outsourcing 2006-2007. Gartner. ID number: G00144477.

Schwartz, R.B. and Russo, M.C. (2004). How to Quickly Find Articles in the Top IS Journals. Communications of the ACM, Vol. 47, No. 2, pp. 98-101.

Simon, H.A. (1973). The Structure of Ill-Structured Problems. Atigficial Intelligence, Vol. 4, No. 3-4, pp. 181-201.

Smith, M.A., Mitra, S., and Narasimhan, S. (1998). Information Systems Outsourcing: A Study of Pre-event Firm Characteristics. Journal of Management Information Systems, Vol. 15, No. 2, pp. 61-93.

Terdiman, R. and Berg, T. (2001). Offshore Application Outsourcing. Gartner. ID number: R-14-3880.

Udo, G. (2000). Using Analytical Hierarchy Process to Analyze the Information Technology Outsourcing Decision. Industrial Management & Data Systems, Vol. 100, No. 9, pp. 421-429.

Williamson, O.E. (1979). Transaction Cost Economics: The Governance of Contractual Relations. Journal of Law and Economics. Vol. 22, No. 2, pp. 233-261.

Yang, C. and Huang, J.B. (2000). A Decision Model for IS Outsourcing. International Journal of Information Management, Vol. 20, pp. 225-239.

Young, A. and Potter, K. (2006). User Survey Report: Strategies for IT Outsourcing, Worldwide, 2005. Gartner. ID number: G00141315

APPENDX I   SEARCH TERMS STRUCTURED LITERATURE REVIEW

Situational factors

Outsourcing	Situational	Factors
Sourcing	Contextual	Criteria
	Contingency	
	Readiness	

Outsourcing attributes

Outsourcing drivers

Outsourcing	Drivers			
Sourcing	Goals			
	Objectives			

Outsourcing risks

Outsourcing	Risks	
Sourcing		

Outsourcing scope

Outsourcing	Scope
Sourcing	Degree
	Extent

Outsourcing locations

Outsourcing	Country	Assessment	
Sourcing	Nation	Selection	
		Evaluation	
		Characteristics	

Outsourcing configurations
What attributes are relevant for describing outsourcing configurations?

Outsourcing success measures
What attributes are relevant for measuring the success of outsourcing strategies

APPENDIX II   RESULTS STRUCTURED LITERATURE REVIEW

Situational factors

INSPEC

Search string	Hits	Relevant articles
+situational +factors +outsourcing +strategy	6	King (2001); Saarinen and Vepsalilanen (1994)
+situational +factors +outsourcing	39	Bhatt et al. (2006); King (2001); Saarinen and Vepsalilanen (1994)
+situational +factors +sourcing +strategy	92	-
+situational +factors +sourcing +strategy +"information systems"	6	King (2001)
+situational +factors +sourcing	1,486	
+situational +factors +sourcing +"information systems"	39	King (2001)
+contextual +factors +outsourcing +strategy	2	Akmanligil & Palvia (2004)
+contextual +factors +outsourcing	13	Jennings (2002); Akmanligil & Palvia (2004)
+contextual +factors +sourcing +strategy	9	
+contextual +factors +sourcing	82	
+contextual +factors +sourcing +strategy +"information systems"	14	
+contingency +factors +outsourcing +strategy	3	-
+contingency +factors +outsourcing	9	-
+contingency +factors +sourcing +strategy	9	-
+contingency +factors +sourcing	69	-
+contingency +factors +sourcing +strategy +"information systems"	7	
+outsourcing +readiness +factors	8	
+outsourcing +readiness +criteria	1	
+sourcing +readiness +factors	106	
+sourcing +readiness +factors +"information systems"	5	
+sourcing +readiness +factors	34	
+outsourcing +assessment +criteria	29	King (2000); King (2001)
+sourcing +assessment +criteria	1,095	
+sourcing +assessment +criteria +"information systems"	53	King (2000); King (2001)

EBSCO

Search string	Hits	Relevant articles
+situational +factors +outsourcing +strategy	0	
+situational +factors +outsourcing	1	
+situational +factors +sourcing +strategy	0	
+situational +factors +sourcing	0	
+contextual +factors +outsourcing +strategy	0	
+contextual +factors +outsourcing	1	Jennings (2002)
+contextual +factors +sourcing +strategy	1	
+contextual +factors +sourcing	3	Jennings (2002)
+contingency +factors +outsourcing +strategy	1	
+contingency +factors +outsourcing	10	
+contingency +factors +sourcing +strategy	1	
+contingency +factors +sourcing	5	Steensma and Fairbank (1999)
+outsourcing +readiness +factors	1	
+outsourcing +readiness	10	
+outsourcing +readiness +criteria	0	
+sourcing +readiness +factors	0	
+sourcing +readiness	5	
+outsourcing +assessment +criteria	5	King (2000); King (2001)
+sourcing +assessment +criteria	3	

ACM

Search string	Hits	Relevant articles
+situational +factors +outsourcing +strategy	551	
+"situational factors" +outsourcing +strategy	10	Dibbern et al. (2004)
+"situational factors" +outsourcing	13	Dibbern et al. (2004)

+situational +factors +sourcing +strategy	14,642	
+"situational factors" +sourcing +strategy	90	
+"situational factors" +sourcing +strategy +"information systems"	44	
+"situational factors" +sourcing	55,735	
+"situational factors" +sourcing +"information systems"	1	
+contextual +factors +outsourcing +strategy	107	
+"contextual factors" +outsourcing +strategy	21	Dibbern et al. (2004); Nam et al. (1996)
+"contextual factors" +sourcing +strategy	216	
+"contextual factors" +sourcing +strategy +"information systems"	1	Dibbern et al. (2004)
+contingency +factors +outsourcing +strategy	119	
+"contingency factors" +outsourcing +strategy	7	Karimi et al. (1996)
+"contingency factors" +sourcing +strategy	42	Karimi et al. (1996)
+"contextual factors" +sourcing	50	Karimi et al. (1996)
+outsourcing +readiness +factors	67	
+outsourcing +readiness +criteria	33	
+sourcing +readiness +factors	640	
+sourcing +readiness +factors +"information systems"	253	
+sourcing +"readiness factors"	6	
+sourcing +readiness +criteria	332	
+sourcing +readiness +criteria +"information systems"	128	
+sourcing +"readiness criteria"	2	
+outsourcing +assessment +criteria	241	
+outsourcing +"assessment criteria"	7	
+sourcing +assessment +criteria	4,517	
+sourcing +"assessment criteria"	112	
+sourcing +"assessment criteria" +"information systems"	46	

Outsourcing drivers

INSPEC

Search string	Hits	Relevant articles
+outsourcing +goals	308	
+outsourcing +objectives	459	
+outsourcing +drivers	121	
+outsourcing +goals +"information systems"	29	-
+outsourcing +objectives +"information systems"	61	Smith et al., 1998;
+outsourcing +drivers +"information systems"	16	Bhattacharya et al (2003)
+sourcing +goals	13,909	
+sourcing +objectives	57,520	
+sourcing +drivers	4,731	
+sourcing +goals +"information systems"	354	
+sourcing +objectives +"information systems"	1,085	
+sourcing +drivers +"information systems"	98	
"outsourcing goals"	4	-
"outsourcing objectives"	6	-
"outsourcing drivers"	1	-
"sourcing goals"	1	-
"sourcing objectives"	0	
"sourcing drivers"	2	-
+outsourcing +drivers +survey	10	-
+outsourcing +drivers +"case study"	3	Fowler (1998)
+sourcing +drivers +survey	93	-
+outsourcing +drivers +"case study"	44	-
+offshore +drivers +survey	7	
+offshore +drivers +"case study"	5	
+offshoring +drivers +survey	2	
+offshore +drivers +"case study"	1	
"global software development" +drivers	1	

EBSCO

Search string	Hits	Relevant articles
+outsourcing +goals	23	DiRomualdo and Gurbaxani, 1998
+outsourcing +objectives	45	-
+outsourcing +drivers	31	Visser, 2000; Fowler and Jeffs, 1998;
+sourcing +goals	21	-

+sourcing +objectives	24	-
+sourcing +drivers	30	-
"outsourcing goals"	6 / 1	0
"outsourcing objectives"	6 / 2	-
"outsourcing drivers"	2 / 1	Fowler and Jeffs, 1998
"sourcing goals"	2 / 0	0
"sourcing objectives"	2 / 1	0
"sourcing drivers"	1	0
+offshore +drivers	26	Gupta et al. (2006); Helyar (2005)
+offshoring +drivers	5	Gupta et al. (2006)
+"global software development" +drivers	0	

ACM

Search string	Hits	Relevant articles
+outsourcing +goals	>200	-
+outsourcing +objectives	>200	-
+outsourcing +drivers	>200	-
+outsourcing +goals +"information systems"	3	-
+outsourcing +objectives +"information systems"	7	Dibbern et al., 2004; Smith et al., 1998
+outsourcing +drivers +"information systems"	0	-
+sourcing +goals	> 200	-
+sourcing +objectives	> 200	-
+sourcing +drivers	141	-
+sourcing +goals +"information systems"	22	0
+sourcing +objectives +"information systems"	65	Dibbern et al., 2004
+sourcing +drivers +"information systems"	3	0
"outsourcing goals"	0	
"outsourcing objectives"	5	Dibbern et al., 2004; Goo et al. 2000
"outsourcing drivers"	5	Dibbern et al., 2004; Goo et al. 2000; Smith et al., 1998
"sourcing goals"	37	-
"sourcing objectives"	> 200	-
"sourcing drivers"	62	0
+outsourcing +drivers +survey	160 / 3	
+outsourcing +drivers +"case study"	273 / 4	
+sourcing +drivers +survey	2,213 / 6	
+sourcing +drivers +"case study"	5,698 / 0	
+offshore +drivers +survey	34	Dibbern et al. (2004)
+offshore +drivers +"case study"	89	Dibbern et al. (2004)
+offshoring +drivers +survey	34	Dibbern et al. (2004)
+offshoring +drivers +"case study"	20	Dibbern et al. (2004)
"global software development" +drivers	22	Dibbern et al. (2004)

Outsourcing scope

INSPEC

Search string	Hits	Relevant articles
+outsourcing +scope	161	-
+outsourcing +scope +"information systems"	25	Cullen et al., 2005;
+sourcing +scope	3,400	-
+sourcing +scope +"information systems"	124	-
+"global software development" +scope	4	Kuni and Bhushnan, 2006
+"distributed software development" +scope	3	
"selective outsourcing"	5	0
"selective sourcing"	1	King and Malhotra, 2000
+outsourcing +degree	142	
+outsourcing +degree +"information systems"	23	Dahlberg and Lahdelma, 2007; Grover et al., 1996; Clemons and Reddi, 1994; Hsu et al., 2005; Lee et al., 2004; Loh and Venkatraman, 1992
+sourcing +degree	26,100	-
+sourcing +degree +"information systems"	204	-
+outsourcing +extent	108	-
+outsourcing +extent +"information systems"	30	Grover et al. (1994); Gonzales et al. (2005); Saunders et al. (1997); Apte et al., 1997
+sourcing +extent	11,951	
+sourcing +extent +"information systems"	171	

EBSCO

Search string	Hits	Relevant articles
outsourcing AND scope	37	Lacity et al.,1996
sourcing AND scope	26	Lacity et al, 1996
+"global software development" +scope	0	-
+"distributed software development" +scope	0	-
"selective outsourcing"	7	Lacity et al, 1996
"selective sourcing"	3	0
+outsourcing +degree	106 / 51	Hsu and Wu (2006); Lee tet al., 2004; Loh and Venkatraman, 1992
+sourcing +degree	44 / 36	Lee et al., 2004
+outsourcing +extent	83 / 42	Gonzales et al., 2005; Millman, xxxx; Apte et al., 1997
+sourcing +extent	50 / 36	0

ACM

Search string	Hits	Relevant articles
+outsourcing + scope	17,161 / 23	Khan et al. xxxx; Koh et al., 2004; Marcolin and Ross, 2005;
+sourcing +scope	23,506 / 226	-
+sourcing +scope	5,722 / 11	0
+"global software development" +scope	54	Dibbern et al, 2004;
+"distributed software development" +scope	80	0
"selective outsourcing"	16	Dibbern et al., 2004; Kishore et al., 2003; Goles and Chin, 2005
"selective sourcing"	252 / 14	0
+outsourcing +degree	898 / 10	Leet al, 2004
+sourcing +degree	38,938 / 572	-
+sourcing +degree +"information systems"	8,730 / 14	0
+outsourcing +extent	597 / 10	De Looff, 1996;
+sourcing +extent	20,325 / 193	-
+sourcing +extent +"information systems"	5,301 / 9	0

Outsourcing risks

INSPEC

Search string	Hits	Relevant articles
+outsourcing +risks	848	
+outsourcing +risks +"information systems"	127	Osei-Bryson and Ngwenyama (2005); Bhattacharya et al. (2003); Altinkemer et al. (1994); Gonzalez et al. (2006); Tafti (xxxx); Willcocks and Lacity (1999); Hoecht and Trott (2006); Aron et al. (2005); Adeleye et al. (2004); McAulay (2002); Kliem (2004); Sakthivel (2007);
+sourcing +risks	6,597	
+sourcing +risks +"information systems"	181	
"sourcing risks"	4	0
allintitle: +sourcing +risks	149	
allintitle: +sourcing +risks +"information systems"	1	Kaufman et al. (2005)
allintitle: +sourcing +risks +IS	1	0
+"global software development" +risks	15	0
+"distributed software development" +risks	11	0
+offshoring +risks	1,024	
+offshoring +risks +"information systems"	37	Kaufmann (2005); Gonzales et al. (2006); Kliem (2004); Tafti (2005); Sakthivel (2007);
+offshore +risks	1,790	
	38	Kaufmann (2005); Gonzales et al. (2006); Kliem (2004); Tafti (2005); Sakthivel (2007);

EBSCO

Search string	Hits	Relevant articles
+outsourcing +risks	119	-
+outsourcing +risks +"information systems"	33	Sakthivel (2007); Gonzales et al. (2006); Osei-Bryson and Ngwenyama (2005); Hoecht and Trott (2006); Aron et al. (2005); Tafti (2005); Kliem (2004); McAulay et al. (2002); Baldwin et al. (2001); Willcocks and Lacity (1999); Fowler and Jeffs (1998)

+sourcing +risks	30	Willcocks and Lacity (1999); Currie (1998)
+"global software development" +risks	0	
+"distributed software development" +risks	0	
+offshoring +risks	36	
+offshore +risks	44	Sakthivel (2007); Gonzales et al. (2006);

Outsourcing locations

INSPEC

+outsourcing +country +characteristics	7	0
+outsourcing +nation +characteristics	6	Carmel (2003); Hawk and McHenry (2005)
+sourcing +country +characteristics	213	Gonzales (2006);
+sourcing +nation +characteristics		
+outsourcing +country +selection	44	Nauman et al. (2004)
+outsourcing +country +assessment	31	0
+outsourcing +country +evaluation	28	Zatolyuk and Allgood (2004); Nauman et al. (2004)
+outsourcing +country +characteristics	7	0
+outsourcing +nation +selection	38	0
+outsourcing +nation +assessment	33	Harland et al. (2005)
+outsourcing +nation +evaluation	31	0
+outsourcing +nation +characteristics	6	Carmel (2003); Hawk and McHenry (2005)
+offshoring +country +selection	59	Naumann et al. (2004)
+offshoring +country +assessment	77	Zatolyuk and Allgood (2004); Naumann et al. (2004)
+offshoring +country +evaluation		
+offshoring +country +characteristics		
+outsourcing +country +selection	44	Nauman et al. (2004)
+outsourcing +country +assessment	31	
+outsourcing +country +evaluation	28	Zatolyuk and Allgood (2004); Nauman et al. (2004)
+outsourcing +location +selection	34	
+outsourcing +location +choice	13	
+outsourcing +location +decision	53	
+outsourcing +location +assessment	13	Nair and Prasad (2004); Gonzales et al. (2006)
+outsourcing +location +evaluation	23	Zatolyuk and Allgood (2004)
+sourcing +country +selection	609	
+sourcing +country +choice	189	
+sourcing +country +decision	453	
+sourcing +country +assessment	1,008	
+sourcing +country +evaluation	901	
+sourcing +location +selection	3,816	
+sourcing +location +choice	619	
+sourcing +location +decision	957	
+sourcing +location +assessment	3,170	
+sourcing +location +evaluation	5,709	
+ offshoring +country +selection	58	Nauman et al. (2004)
+ offshoring +country +choice	12	
+ offshoring +country +decision	44	Coward (2003); Gonzales et al. (2006)
+ offshoring +country +assessment	96	Gonzales et al. (2006)
+ offshoring +country +evaluation	75	Zatolyuk and Allgood (2004); Nauman et al. (2004)
+ offshoring +location +selection	458	
+ offshoring +location +choice	156	
+ offshoring +location +decision	55	
+ offshoring +location +assessment	541	
+ offshoring +location +evaluation	664	
+outsourcing +country +characteristics	8	Carmel (2003); Nair and Prasad (2004);
+outsourcing +location +characteristics	10	Carmel (2003)

+sourcing +country +characteristics	529	
+sourcing +location +characteristics	5,264	
+offshore* +country +characteristics	30	
+ offshore* +location +characteristics	485	

EBSCO

+outsourcing +country +selection	12	
+outsourcing +country +choice	18	
+outsourcing +country +decision	62 / 24	Gonzales et al. (2006); Christensen and Drejer (2005)
+outsourcing +country +assessment	13	
+outsourcing +country +evaluation	9	
+outsourcing +location +selection	11	
+outsourcing +location +choice	14	
+outsourcing +location +decision	33 / 16	Christensen and Drejer (2005)
+outsourcing +location +assessment	0	
+outsourcing +location +evaluation	4	
+sourcing +country +selection	10	
+sourcing +country +choice	15	
+sourcing +country +decision	31 / 22	
+sourcing +country +assessment	6	
+sourcing +country +evaluation	10	
+sourcing +location +selection	11	
+sourcing +location +choice	12	
+sourcing +location +decision	21	
+sourcing +location +assessment	4	
+sourcing +location +evaluation	7	
+ offshor* +country +selection	6	
+ offshor* +country +choice	15	
+ offshor* +country +decision	71 / 20	Gonzales et al. (2006)
+ offshor* +country +assessment	20	
+ offshor* +country +evaluation	13	
+ offshor* +location +selection	9	
+ offshor* +location +choice	13	
+ offshor* +location +decision	21	
+ offshor* +location +assessment	4	
+ offshor* +location +evaluation		
+outsourcing +country +characteristics	8	
+outsourcing +location +characteristics	7	Nair and Prasad (2004)
+sourcing +country +characteristics	14	
+sourcing +location +characteristics	10	
+offshore* +country +characteristics	9	
+ offshore* +location +characteristics	5	Nair and Prasad (2004)

ACM

+outsourcing +country +selection	330	
+outsourcing +"country selection"	0	
abstract: +outsourcing +countries	30	Carmel and Abbott (2003)
abstract: +outsourcing +locations	23	
abstract: +sourcing +countries	108	
abstract: +sourcing +locations	1194	
abstract: +offshor* +countries	12	Carmel and Abbott (2003)
abstract: +offshor* +locations	12	
+outsourcing +country +characteristics	258	
+outsourcing +"country characteristics"	2	
+outsourcing +location +characteristics	494	
+outsourcing +"location characteristics"	0	
+sourcing +country +characteristics	3603	
+sourcing "country characteristics"	5	
+sourcing +location +characteristics	23,488	
+sourcing +"location characteristics"	18	
+offshore* +country +characteristics	70	Dibbern et al. (2004)
+ offshor* +location +characteristics	131	

APPENDIX III QUOTATIONS

Situational factors

Information systems		
Complexity	What you see is that the application layer and the infrastructure layer are highly intertwined. You can separate these with force, but it is easier to assign both to one supplier, also in terms of control.	PUBLICCO
Complexity	You are dealing with a very old and complex environment which does not make it easy to take over the information systems.	INGL-LC
Complexity	Establishing connectivity, e.g. making it possible to let Turkish colleagues work over here or running a simulation within the Turkish IS environment, was quite a challenge and a risk and still is.	Fortis Benelux
Standardization	BankTrade is a standard package accompanied with a significant portion of customization. I think there are already 3 or 4 different versions of BankTrade just in the Netherlands.	ING-BT
Competitiveness	ABN AMRO Bank perceives IT as non-core.	ABN AMRO Bank
Competitiveness	Within Fortis we say that ICT is a core competence, so in principle we have to keep that in-house. We do see that a lot of generic activities are being transferred to the market because we can not do them as fast or cost efficient. If big parties have done it often than it is a commodity, nothing strategic for us. In that case we want to outsource more often. In principle that is our main strategy: we do it in-house, but if commodities can be done out-house we will outsource them.	Fortis
Criticality	The brewery's operating systems are critical system. You can outsource these systems, but if the beer production stops this will cost millions. This will never result in a positive business case	BeerCo
IS processes		
Standardization	The majority of the Operating Companies were doing IT on their own.	BeerCo
Competitiveness	ABN AMRO Bank perceives IT as non-core	ABN AMRO Bank
Competitiveness	Within Fortis we say that ICT is a core competence, so in principle we have to keep that in-house. We do see that a lot of generic activities are being transferred to the market because we can not do them as fast or cost efficient. If big parties have done it often than it is a commodity, nothing strategic for us. In that case we want to outsource more often. In principle that is our main strategy: we do it in-house, but if commodities can be done out-house we will outsource them.	Fortis
Maturity	If the supplier performs badly, probably you have not directed him well enough. Apparently functional governance of the supplier, i.e. functional maintenance, creating specifications, etc., was failing. So their organization was also unprofessional.	ING-BT
Maturity	Everybody is very solution driven. They are all local heroes, but perform below market average in terms of processes and capabilities.	LotteryCo
Maturity	The maturity of the organization was not good, but not bad either. They were not CMMI level 3, 4, or 5, but rather somewhere in between 1 and 2. That was normal at that time.	PensionCo
Maturity	CMM applies to application development. In that case they meet towards CMM level 1	PowerCo
Maturity	Web-development is a commodity for us. So in principle this can be outsourced. Because the bank's maturity in this area is rater low, we acknowledged that if we went to an external supplier we could run into problems since we are not so good in directing.	Fortis Benelux
Maturity	*Did the scope comprise the Benelux, Europe?* No, the Netherlands. We wanted to have a Dutch supplier for those people who got transferred. Besides the business was not mature enough to outsource abroad. In addition all the expertise is located in the Netherlands. These	Fortis MPB

	were multiple reasons for searching a provider in the Netherlands.	
IS requirements		
Complexity	We have business lines which are more commodity, such as Retail Banking and Operations, that do not have real complex requirements. On the other hand we also have a number of Wholesale Banking Businesses. Very complex matter that is very hard to describe	Fortis Benelux
Supplier market		
Number of suppliers	Tandem is an obsolete technology. It is very difficult to find a vendor in that field. There are only a few in the Netherlands. Yet there are still running critical systems on Tandem in the Netherlands.	Fortis MPB
Quality standards	It is important to have a good feeling about your vendors. Currently ABN AMRO Bank is looking for clues that indicate the reliability of potential vendors. The CMMI level of the vendor is one mean in this.	ABN ARMO Bank
Quality standards	Both the internal IS organization and the Turkish IS supplier are definitely not CMMI level 5. But if Turkey would do a CMMI assessment I think they would reach level 3 easily. If we would do an internal assessment level 2 would be the maximum, certainly not higher.	Fortis Benelux
Quality standards	*I believe that you have to consider CMMI levels relatively, instead of absolutely. I think that If you as a CMMI-level 1 or 2 organization want to have a level 5 supplier you will run into supply-demand problems.* Yes, you are right. Than you get that discrepancy.	Fortis Benelux
Quality standards	With projects I can imagine that clients select their suppliers based on CMMI level. However in the case of outsourcing I think CMMI is irrelevant. You just want to have a supplier who is in control of his processes regardless of the certification he uses.	BeerCo
Quality standards	If suppliers are offering you a CMMI level 5 service, you need to ask yourself the question if that is what you really need. You also have to pay for that service. The hight service level is not always the best option.	PowerCo
Quality standards	CMMI is for applications development off course. In that case they are at the bottom, about level 1.	PowerCo
Quality standards	They were not CMMI level 3, 4, or 5, but somewhere in between 1 and 2.	PensionCo
National vision and software strategy	We have not thought of this new architecture by ourselves, but we went shopping at three suppliers, companies that develop systems specifically for the lottery market.	LotteryCo
Shared interest	If you as a company are thinking about sourcing strategy you have to consider for which party you could we be interesting. You are looking for a partner that is in the same field of play.	PowerCo
Size	In terms of power balance look for a party that has the same size as your company. If you do not, I am convinced that it will take a lot of time before you as a relatively small company will get management attention from the supplier or before problems are solved.	PowerCo
Size	Another disadvantage about India, is that local suppliers staff contracts for 85% with junior developers. This is even more the case with small customers. With 300 fte's Fortis is a relatively small customer (Fortis Benelux).	Fortis Benelux
Satisfaction	ING-BT has lots of problems with the supplier, who is not professional enough, who delivers unsatisfactory quality, who can not maintain the system, who does not deliver fast enough, etc.	ING-BT
Human resources		
Availability of people	Depending on the moment there is a labor excess or – shortfall. A couple of years ago there were too many IS people on the labor market. If the client decided to outsource and to transfer his staff to the provider he had to pay for them. Now things are changed. With a tight labor market the provider is paying the client for the staff he receives. So the moment you close the deal determines whether you have to pay money or get money for the same transaction.	PensionCo

Availability of people	When the pilot had succeeded successfully, we asked ourselves what would be the maximum capacity of Turkey in terms of fte's. This appeared to be 45 fte. So we cut 45 fte in the Benelux budget for web development for next year.	Fortis Benelux
Availability of people, technological skills	We have chosen for offshore outsourcing because of capabilities. Certain capabilities were not sufficiently available in the Netherlands.	PowerCo
Availability of people, technological skills	The only place where we can find those capabilities is India. There is a reasonable chance that we are going to speed up the process of getting Indians over here or moving the work over there.	ING-LC
Technological skills	That has everything to do with competences in the market compared to the competences of LotteryCo. So what sense are they better? Is that market proven and do they have demonstrated capabilities on the market?	LotteryCo
Availability of people, technological skills	Turkey does not have the expertise or the scale for other IS functions or IS activities. They have invested heavily in all sorts of new technologies. They are superior at Java and .NET and everything that goes along with that, they have Oracle, and they have reasonably new infrastructure. They are not familiar with Cobol programming and mainframes. Looking for such expertise does not make sense. What you see is that old technologies are not popular in that country. If you want to hire people for that, you will experience the same resource problems as over here. So you really have to look for an external supplier (Fortis Benelux).	Fortis Benelux
Technological skills	Every time we do an acquisition we specifically look for capabilities. As such we took over a bank In Poland. There they have other expertise.	Fortis Benelux
Technological skills	*Did the scope comprise the Benelux, Europe?* No, the Netherlands. We wanted to have a Dutch supplier for those people who got transferred. Besides the business was not mature enough to outsource abroad. In addition all the expertise is located in the Netherlands. These were multiple reasons for searching a provider in the Netherlands.	Fortis MPB
Culture		
Uncertainty avoidance	*What were the reasons for conducting an outsourcing pilot in Turkey?* First of all, the culture in Istanbul is compatible with the culture of Western companies (source: preliminary interview 13 November 2006).	Fortis Benelux
Uncertainty avoidance	You have to select a supplier with a culture that you need. Not necessarily the same culture. You may even consciously choose for a supplier with a different culture because you want to realize certain goals, namely change.	PowerCo
Uncertainty avoidance	We did not have the intention to completely fit with the LotteryCo culture. That is not what we wanted, since their internal capabilities were insufficient. We wanted to select a party that could act a role model, but that was no too far away from the current situation of LotteryCo.	LotteryCo
Uncertainty avoidance	When we compared those parties in the RFI- and RFP phase 50% of the weight was assigned according to the cultural fit between the client organization and the supplier.	LotteryCo
Uncertainty avoidance	We did a pilot first. After you have addressed the emotions you have to deal with the cultural differences simply because you do not under understand each other and you have different ways of working. Here you have an enormous organization, there you have a rather small and flexible organization. So you have to align things first. We have invited some Turkish colleagues to the Benelux to show them that a 5,000 fte large organization is managed differently than the 160 fte's they have over there. The other way around we have let our people experience that the culture over there is different and that the Turkish colleagues are more flexible.	Fortis Benelux
Cultural impact	Culture has a big influence: you are dealing with people, countries, and games played between countries. This has an enormous impact on what happens next.	BeerCo

Competition		
IS use by competitors	If we look at our competitors we see that Tandem is disappearing. In that perspective we follow the rest. I think that is a common trend; if it is end-of-life technology, you want to get rid of it.	Fortis MPB
IS outsourcing by competitors	I am not an advocate of multi-sourcing like ING Bank recently did with their desktop support in which a number of suppliers are directed by one vendor. I think that vendor management must be one of the core competences of the future IS organization.	Fortis Benelux
IS outsourcing by competitors	We also considered establishing a captive centre, just like ABN AMRO Bank did. This was not found desirable, because you need to have a rather fast ramp up in order to satisfy your business case within three years. The impact of this on the internal organization does not make it an option for the moment.	Fortis Benelux
Financial		
Wages	I do not know why Indian pure players should be cheaper than the back offices of large Western suppliers in India. They all use the same labor pool and have the same scale size. Why should there be any difference in cost?	PowerCo
Wages	Remarkably is that the overall price of the countries considered does not differ a lot. For example, the labor costs in India are cheaper than Turkey, but offshoring to India requires more coordination costs.	Fortis Benelux
Tax benefits	Fortis has its concerns about India's political climate and the fact that IT firms do not have to pay taxes. This way the profitable IT industry does not generate any tax incomes that are necessary for establishing national economy and wealth (source: preliminary interview 16 October 2006).	Fortis
Overall	If your sourcing strategy prescribes a cost saving of x percent, you just go to the market and say that you want to save x percent. Which party is going to realize that and which party can do it even better? This might be a Dutch party. It also might be a party that offshores a significant part.	BeerCo
International orientation		
International linkages	My opinion is that if you are a party that has not much experience with doing business on an international scale, you can better establish an offshore relationship via a Western supplier instead of directly doing business with an Indian pure player. This way the people in the front office can settle down cultural differences.	PowerCo
Infrastructure		
ICT infrastructure	Turkey does not have the expertise or the scale for other IS functions or IS activities. They have invested heavily in all sorts of new technologies. They are superior at Java and .NET and everything that goes along with that, they have Oracle, and they have reasonably new infrastructure. They are not familiar with Cobol programming and mainframes. Looking for such expertise does not make sense. What you see is that old technologies are not popular in that country. If you want to hire people for that, you will experience the same resource problems as over here. So you really have to look for an external supplier.	Fortis Benelux
ICT infrastructure	Establishing connectivity, for example making it possible to let Turkish colleagues work over here or running a simulation within the Turkish IS environment, is quite a challenge and a risk.	Fortis Benelux
ICT infrastructure	The plan was to outsource it outsource it to a different data centre. Compliancy was not the issue. The problem was the complexity of our own infrastructure. You can not remove it just like that.	Fortis MPB
Political		
Political stability	Fortis has its concerns about the political situation in India. The conflict with Pakistan and the status of developing country were mentioned as critical factors concerning India's political climate (source: preliminary	Fortis

	interview 16 October 2006).	
Government support, regulations	You are dealing with various countries. This means that in every country you have to meet the local working council. Every country has specific rules, processes, and games. In France this is not very easy. In Germany it is not easy either. In the Netherlands they are rather flexible if you have a good dialogue. These are all aspects you have to consider when designing your sourcing strategy.	BeerCo
Regulations	In Europe there is "TUPE". In the Netherlands they call this "overgang van wereld" or "mens volgt werk". All EU countries the same legislation is more or less applied. If the outsourcing provider, the reveiving party, does everything in India this is his problem. That does not relieve him from the obligation to take over the client's staff.	BeerCo
Regulations	Traditionally labor unions in Belgium, where the core is located, have a lot of power and are against outsourcing.	Fortis
Regulations	With Anglo-Saxon companies laying off employees is relatively easy. However with a Belgium Board of Directors you are facing a great number of work councils and that kind of stuff. Laying off employees does not make sense in this situation. Than you will not settle your business case.	Fortis
Regulations	Fortis also takes into account whether it easy to get a visa or working permit for the supplier's staff. Acquiring a visa for Polish employees, for instance, is relatively easy.	Fortis

Outsourcing drivers

Attribute	Quotation	Case
Focus on core competencies	AAB wants to concentrate itself on its core business and considers IT as non-core.	ABN AMRO Bank
Consolidation	Besides, AAB wants to consolidate and reuse its systems as much as possible. Achieving synergies is also an important aspect of the IS strategy of AAB. According to AAB synergies can be achieved by copying existing services and learn how to make them suitable for other applications.	ABN AMRO Bank
Reduce cost	ABN AMRO Bank wants to reduce IT cost and –staff by means of outsourcing.	ABN AMRO Bank
Consolidation	Centralization and standardization, these were the two IS themes that had to be realized.	BeerCo
Focus on core competences	What does a country need to do? Is has to make beer or sell beer. Where there is a brewery they are making beer and if there is no brewery they are selling beer.	BeerCo
Improve IS performance, improve business performance	We wanted to go towards an integral information supply. I want to think of information supply as a chain, identify the generic parts in that chain, and remove duplications. That is how I want to reach my efficiency.	PUBLICCO
Reduce cost	With the status as an autonomous agency (zelfstandig bestuursorgaan) they received a number of task: cost had to be lowered, this also implies a reduction in the number of permanent positions	PUBLICCO
Improve IS performance, improve business	Quality improvement was very important. PUBLICCO wants that every product is repeatable and traceable: how has this product been established, and what were the different steps in the production process	PUBLICCO
Acquire IS capabilities	It was concluded that they could not realize the transition by the year 2012 alone. Besides they did not have sufficient competencies. Looking at the IS side of my company this means that I need more IS capacity in the coming years in order to make this transition happen.	PUBLICCO
Improve IS performance. Improve business performance, reduce cost	Time-to-market is one and cost profile is two. For every business within Fortis fast delivery is more important than cost at the moment.	Fortis Benelux
Change culture of IS organization	By outsourcing it to an external party we were hoping to reduce the number of changes, because then you are confronted with the bill every time. Now you can really start phasing out.	Fortis MPB
Reduce of obsolete technology	For the IS organization end-of-life is a driver; our men are going to do something differently, else you can not keep them motivated.	Fortis MPB
Professionalize Is organization, shift IS responsibilities to provider	Improve governance If the supplier performs badly, probably you have not directed him well enough. Apparently functional governance of the supplier, i.e. functional maintenance, creating specifications, etc., was failing. So their	ING-BT

	organization was also unprofessional.	
Reduce cost	Besides that ING is focused on reducing costs	ING-BT
Secure continuity	The most important problem is the continuity of the organization. What you see is that all systems are old and the knowledge of these systems is in the heads of only a few people. These people can leave, die, anything can happen to these people.	ING-LC
Professionalize OS organization	The professionality of the group is also important. It is a group that has to work more professional.	ING-LC
Acquire IS capabilities (quantity)	You need to have more people but instead you are experiencing an opposite trend.	ING-LC
	One of the exceptional reasons to outsource, to do it not onsite, was that they had very few work places. If we could do it at Capgemini we do not need to trouble about this problem anymore.	ING-LC
Reduce costs	Cost had to be lowered too.	ING-LC
Reduce costs	I am performing on a cost level that is too high and can not be lowered down, because everything is fixed.	LotteryCo
Improve IS performance (IS complexity), improve business performance (time-to-market), reduce costs	There were three drivers behind the decision to replace the core systems. One was the complexity of the systems, which was tremendously high. Two was the time-to-market for new products, which was too long. And, three, was just costs	LotteryCo
Reduce costs, improve cost predicatbility	Our cost levels are too high and too many costs are fixed. These were the reasons to analyze the underlying pricing structure and determine to what extent costs can be made predictable.	LotteryCo
Improve IS performance (IS complexity), improve business performance (time-to-market), reduce costs	The most important driver was threefold: complexity in terms of the number of partners, fixed costs, and three, time-to-market.	LotteryCo
Secure continuity	They were coping with over capacity. They had 400 people in service, but there was only work for 250 people. Making the remaining people redundant was not a solution. So they have been looking for a commercial party servicing multiple clients in order to secure continuity for the IS organization and these people. The focus was on continuity, employment, and that kind of stuff.	PensionCo
Professionalize IS organization	A party that was looking for more structure	PowerCo
Professionalize IS organization	A party that was looking for better management of IS	PowerCo
Considation, secure continuity	That is what the organization wanted to achieve with the consolidation coup: increasing continuity and get ready for the future.	PowerCo
Reduce costs	In terms of goals the TCO discussion did play a role, though not a very dominant one, meaning that capabilities were considered more important than costs.	PowerCo

Outsourcing risks

Attribute	Quotation	Case
Supplier risk	One important risk was that Capgemini had to make sure there would be enough work. The risk was with Capgemini. In case of disappointing results Capgemini was bearing the loss.	PensionCo
Possible IS staff opposition	Retaining people I though was not such a risk. The working conditions were settled. On important risk, though, was that they were in a negative attitude.	PensionCo
Governance	When a firm from a different country is taken over, Fortis makes it a separate legal entity. From that perspective you are just dealing with an external supplier. As a consequence you have to satisfy with legal and compliancy regulations so you bear a greater risk.	Fortis Benelux
Governance	Because it was front-end work without any business logic and since we did not have the expertise anyway we did not see much risk. The only risk is that you manage things badly and projects will run out. We have acknowledged that as a risk	Fortis Benelux
An excessive dependence on the provider	On the other hand, you do want to avoid the risk on a lock-in at all times.	PUBLICCO
An excessive dependence on the provider	There is one more risk: what happens in Fortis decides to sell Turkey? Than you loose all your resources. We still have to manage that risk. The CIO has to decide whether this is a considerable risk and if we have to	Fortis Benelux

Attribute	Quotation	Case
	address this in our SLA's. In the meanwhile we keep on going.	
Risk mitigation	If you transfer Turkish colleagues to the Netherlands or to Brussels you do not have a business case anymore. Than you mitigate all risks, but you do not have any financial benefits anymore. So that is what we try to minimize.	Fortis Benelux
Hidden costs in the contract	One risk was that we did not realize the business case. The cost of firing people were higher than expected.	Fortis MPB
	Unless the shortage of resources, also with the external supplier, they are not in hurry to dispose of the system. This remains a risk.	Fortis MPB
Possible IS staff opposition	The second risk involves the employees which are very negative in relation to the management. As soon as the management has decided the employees will probably oppose. And exactly these people are needed for knowledge transfer.	ING-LC
Maturity	Web-development is a commodity for us. So in principle this can be outsourced. Because the bank's maturity in this area is rater low, we acknowledged that if we went to an external supplier we could run into problems since we are not so good in directing.	Fortis Benelux
Supplier grouping	A lot of people are external over here, but not everybody. So there will always remain small internal web development teams that can also do it. And if we experience that the quality is insufficient we simply go to an external party. As an audit we will sometimes look at the prices in the market. If the price in Turkey is lower, than they are lucky. If the price is higher, we will go to an external party. This way we can challenge Turkey.	Fortis Benelux

Outsourcing configurations

Attribute	Quotation	Case
Scope grouping (service scope)	At first we are going to outsource our IT infrastructure in order to achieve the objectives of centralization and standardization.	BeerCo
Scope grouping (service scope)	Whether you distribute your IS functions among multiple parties or just one party, is does not make a difference. The point is that you should try to standardize your services in a way that you buy standard services and define your contract structure as such that you still have different parcels. Even though you have only one supplier make sure that services are grouped within different parcels you can detach from each other. So when you are not satisfied with a certain parcel you pick it up and move it to a different supplier. A second advantage of standardizing is that it eases the process of bench marking.	BeerCo
Scope grouping (recipient scope)	ING has a distributed sourcing model. Everybody has the authority to make to make their own sourcing decisions. This applies to divisions, IS departments, and even IS organizations of 40 people may decide on how to outsource and to whom.	ING-LC
Scope grouping (service scope)	The strong point in this case is that they thought about parcels in advance. You can make it very difficult and complex, but eventually there are only two parcels: one infrastructure parcel and one application parcel.	PowerCo
Scope grouping (service scope)	What we have actually done is defining groups of services that had to be assigned to a single provider in terms of control. Actually you have parcels in which you distinguish clusters from a governance point of view. This tells you which parties can be positioned on what clusters.	PUBLICCO
Supplier grouping (multi-vendor)	Harvest had reduced the reduced the number of IS suppliers from 150 to 5 preferred suppliers: TCS, Patni, IBM, and Accenture.	ABN AMRO Bank
Supplier grouping (multi-vendor)	Since 2002 EDS is providing technology services and application development in the major countries in which WCS operates (source: ABN AMRO press room). In 2005 the Harvest- and Symphony contracts became effective. In the Harvest contract five preferred suppliers are assigned for application development and –maintenance. The Symphony contract is a single-vendor contract with IBM covering infrastructure development	ABN AMRO Bank
Supplier grouping (multi-vendor)	The rationale behind the multi-vendor deals was to enforce competition among different vendors, resulting in more involvement and competitive pricing.	ABN AMRO Bank
Supplier grouping (multi-vendor)	With respect to the scope of the sourcing deal ABN AMRO Bank prefers to think big and act globally. Multi-vendor relationships enforce competition and result in better pricing.	ABN AMRO Bank
Supplier grouping (multi-vendor)	It is an extensive program, a complex transformation process so outsourcing everything to one party is a bit difficult. We want to use the dynamics of multiple parties. We want to benefit from the competition between parties.	BeerCo
Supplier grouping (best-of-breed)	This means they went from three vendors including lot of subcontractors to only two vendors. The efficiency was reached by removing al subcontractors.	PowerCo
Supplier grouping (sole supplier)	For each parcel we need to have one party so we can stay in control of each parcel. It could be the same party, but this increases dependency	PowerCo

	significantly.	
Supplier grouping	We are trying to make our organization more mature. That is why we choose for inhouse or nearshore without any onsite part wherever possible.	Forrtis-Web
Supplier grouping (panel)	A lot of people are external over here, but not everybody. So there will always remain small internal web development teams that can also do it. And if we experience that the quality is insufficient we simply go to an external party. As an audit we will sometimes look at the prices in the market. If the price in Turkey is lower, than they are lucky. If the price is higher, we will go to an external party. This way we can challenge Turkey.	Fortis Benelux
Supplier grouping	Complexity is not just the complexity of systems, but also the complexity in terms of the number of suppliers.	LotteryCo
Supplier grouping (best-of-breed)	We have not thought of this new architecture ourselves, but we went shopping at three suppliers, companies that develop systems specifically for the lottery market	LoteryCo
Supplier grouping	If you compare the different configurations you see that in the As-Is situation LotteryCo does everything itself and hires resources at several parties. Supplier 1 only delivers support. LotteryCo will remain responsible for their operation. So what you actually get is a one-partner model. The second supplier wants to take over all IS facilities. The third supplier takes care of everything. LotteryCo is just licensee.	LotteryCo
Supplier grouping (mulit-vendor)	Six parties means you need multiple controls to secure the reliability of your lottery processes.	LotteryCo
Supplier grouping (prime contractors)	I am not an advocate of one vendor that directs a number of other suppliers. I think that vendor management must be one of the core competences of the future IS organization.	Fortis MPB
Supplier grouping	In terms of multi-sourcing we will keep multiple vendors just to foster competition.	Fortis MPB
Scope grouping (service scope)	For the RfP initially we have looked at having one supplier for development and software maintenance and another for deployment and the infrastructure. But since all parties have merged and the process took rather quite long this was not feasible anymore at a certain stage. So we have moved everything to one party. The whole is quite coherent.	Fortis MPB
Supplier grouping (best-of-breed)	PUBLICCO wants to make use of partners. So what is important is to visualize the sourcing strategy, define parcels of services, and assign these parcels to the internal IS organization and external suppliers. Actually this is what you call a best-of-breed construction: I want to position every party in what it is good at and I want that the aggregate is complementary and not conflicting.	PUBLICCO
Supplier grouping	A third aspect is that I want it to be controllable in terms of the number of parties. Control is influenced by breath and depth. Breath is about how many parties you want to use and depth about how much responsibility you assign to a party. Choices are dependent on the time frame in which you want to realize things. Ultimo you may want to use a large number of suppliers that you want to control yourself. This also means that you need to have the capabilities in place to direct all these parties. If you still need to develop these capabilities this will take extra time future resulting which means that you achieve your desired situation later. For PUBLICCO it was important to meet the outsourcing goals in 2012. This time frame inclines focus more dominant on self organizing parties. On the other hand, you do wan to avoid the risk on a lock-in at all times. This asks for a maximum number of parcels. These are two contrasting things: designing bigger parcels and shifting more responsibilities and risks to the market because of time shortage on the one hand versus a maximum number of parcels and maximum internal control to avoid any chance on a lock-in. A mediating scenario would be appointing a prime contractor and various subcontractors. That is the scenario that was eventually chosen.	PUBLICCO
Supplier grouping (best-of-breed)	What we have actually done is defining groups of services that had to be assigned to a single provider in terms of control. Actually you have parcels in which you distinguish clusters from a governance point of view. This tells you which parties can be positioned on what clusters	PUBLICCO
Supplier grouping (prime contractor)	PUBLICCO has chosen to have one supplier as a prime contractor. A prime contractor is not an implementation partner.	PUBLICCO
Supplier grouping (prime contractor)	Now you have a prime contractor that defines parcels and an implementation partner. In between there are grey areas and the risk is carried by the prime contractors or PUBLICCO.	PUBLICCO
Financial scale	Yearly IT spend was between 30 and 35 million dollar. This is not small, but also not very big.	PowerCo
Financial scale	"The size was not very big. This means that a wide range of parties are interested including the midrange segment. For large suppliers the size was interesting too but from a different order than an outsourcing deal with a large multinational"	PowerCo
Financial scale	The workplaces parcel involves 170 million euro over a five year period.	BeerCo

Financial scale	I do not know the exact financial figures. The deal involves five or six fte. This gives you an idea about the price. Costs for transferring infrastructure should. This is a significant cost component in relation to the small number of fte's being transferred.	Fortis MPB
Financial scale	This case involves 40 men in an applications development- and application maintenance organization.	ING-LC
Pricing framework	In principle we are talking about the provision of services, in which case you receive a service against a fixed price.	BeerCo
Pricing framework	I do not know how to set up shared profit mechanisms in such a way that you introduce incentives without creating to much overhead around kpi's that are quite vague. We do everything fixed price. With new business clients we start begin with staff augmentation. Just start with the project, merely to save you from all that paper work.	Fortis Benelux
Pricing framework	These different models each have different pricing methods. You can imagine that the first model, in which LotterCo is leading and we just deliver resources, is a time-material contract in essence. You can also imagine that in the utmost model, in which marketing and products development is party delegated, rewards are based on a percentage of sales.	LotteryCo
Pricing framework	Start with staff augmentation and grow to fixed pricing as much as possible afterwards. We have to work on that. The contract is set up very tight, at least 90% fixed price. In reality we do not realize this.	Fortis MPB
Pricing framework	Sommige systemen worden in zijn geheel overgenonemen en dat noemen ze outsourcing en bij de andere systemen praten ze over "statements of work". Dat is eingelijk ook outsourcing alleen dan een stukje werk en dat doe je op contractbasis. De contractvorm is iets anders in eerste instantie.	ING-LC
Pricing framework	De grootste uitzondering zit bij Leven Collectief, omdat daarin verschillende contractvormen worden gehanteerd, dus de ene keer met statements of work, we hebben nu een hoeveelheidje werk, beoordeel dat, hang daar een prijs aan en voor die prijs ga je het gewoon doen.	ING-LC
Pricing framework	The pricing framework was mainly unit based.	PowerCo
Duration	It was about a five year contract	LotteryCo
Duration	It would be long-term, about four or five years.	PensionCo
Duration	The duration that is negotiated right now is five years.	ING-LC
Duration	Fixed price covering units from 400 to 500 man days, that is standard.	Fortis Benelux
Resource ownership (staff transfer)	For a large part staff is being transferred. This introduces uncertainty, discussions with work councils, and everything that goes along with that. For certain people this is not pleasant.	BeerCo
Resource ownership (staff transfer)	It was stated that in principle no people would be transferred to Capgemini. The reason of this decision was that they wanted to remain peace.	ING-LC
Resource ownership (staff transfer)	There has been no transfer of staff. Already during the first deal there were hardly any internal people working in the application domain. This makes the process of communication more easier.	PowerCo
Commercial relationship	Rather quick was decided for a joint venture, i.e. establishing a new IS organization owned by both PensionCo and Capgemini. The reason for this was that PensionCo felt responsible for its staff and wanted to be able to enforce certain continuity guarantees this way.	PensionCo
Commercial relationship	Because we do not need to worry about heavy RFP's and all that stuff we expect that the costs are similar to that of external parties.	Fortis Benelux
Commercial relationship	The growth strategy of Fortis makes the company take over banks in Turkey, China, and Russia. Instead of consolidating and centralizing the infrastructures of these banks, Fortis wants to cooperate with them. This way Fortis can leverage its experience with sourcing.	Fortis Benelux
Commercial relationship	Although the Turkish bank is part of the Fortis organization, Fortis used a 'market relationship' governance model.	Fortis Benelux
Commercial relationship	Incorporated banks will be treated as external suppliers. These banks also send invoices, including a profit margin, to the requesting party. The advantage of such a market relationship is to spare out contract costs and legal costs.	Fortis Benelux
Commercial relationship	We also considered establishing a captive centre, just like ABN AMRO did. This was not found desirable, because you need to have a rather fast ramp up in order to satisfy your business case within three years. The impact of this on the internal organization does not make it an option for the moment.	Fortis Benelux
Commercial relationship	For the realization of my new application landscape I need expertise from my old world. People that will participate in the transformation and change roles from developer to systems maintainer. With co-sourcing I make the market responsible for two things: creating my new world and preparing my staff with their new roles.	PUBLICCO
Commercial	Incorporated banks will be treated as external suppliers. These banks also	Fortis

| relationship | send invoices, including a profit margin, to the requesting party. The advantage of such a market relationship is to spare out contract costs and legal costs. | |

Outsourcing success measures

Attribute	Quotation	Case
Reduction in number of IT staff	Harvest has reduced the number of IS suppliers from 150 to 5 preferred suppliers: TCS, Infosys, Patni, IBM, and Accenture.	ABN AMRO Bank
Cost reduction	When the sourcing strategy of GSS was introduced last year, AAB estimated to achieve a cost reduction of $258 a year as of 2007. Nick still expects to achieve this result. The business units Assets Management, Private Clients, and Netherlands are saving cost in conformance with their business cases.	ABN AMRO Bank
Time-to-market	AAB is collecting all kinds of data throughout sourcing project and captures that data in a knowledge base. This knowledge base can be helpful in the future sourcing of services. Function Point Analysis is used as a measurement instrument across the Harvest contract. BU-NL is the only business unit who has a database with historic data from function point analyses. Based on these data the norm of eleven hours for completing one function point has been set. The goal is to lower this norm every year. However, AAB still has problems meeting the initial norm. This especially counts for employees that have been working at AAB before the introduction of Harvest.	ABN AMRO Bank
User satisfaction	AAB is aware that customer satisfaction is decreasing. Nick says this is not solely because of outsourcing. He thinks declining customer satisfaction can also be attributed to the shift in business strategy from local bank to bank shops. For AAB the shareholders are the most important stakeholders and this group appreciates the outsourcing of IT services. Nick expects that customer satisfaction will increase within two years when outsourcing processes are fine-tuned	ABN AMRO Bank
User satisfaction	Especially in multi-vendor environments, the client is becoming nuts, because every supplier has its own satisfaction measurement instruments.	BeerCo
	Outsourcing success is one of the most underrated phenomena, including measurement and feedback in terms of my configuration requirements.	BeerCo
User satisfaction	The end user represents the business. The IS organization can be happy, but what really counts it a satisfied end user.	PowerCo
Control of IS expenses	I think the major improvement is in the application domain: less re-work. Less re-work means less budget.	PowerCo
Number of IT based innovations, capability of IT to support the needs of business operations, cost reduction	I think they have achieved their goals: more IS, better IS, for a bit less money	PowerCo
Skilled personnel	They have remained the same number of fte's, but only with better people.	PowerCo
Improve IS performance	The efficiency gain both in the infrastructure part and the applications part was reached by removing all subcontractors.	PowerCo
Cost reduction	If we have outsourced those 45 fte to Turkey at the end of 2007, we have achieved one third cost reduction.	Fortis Benelux
Service quality, Skilled personnel, Well functioning IT environment	We also looked at quality. They have expertise we do not have, for instance integrating Java Websphere and.NET. There they have already done it, so the quality is much higher. They also perform re-engineering tasks for us; if we can not finish stuff because lack of time or lack of expertise, we send it to Turkey and get better quality back. This is also experienced by the internal web development teams: decent, better performance, less lines of code. The Turkish colleagues commit themselves to standards and guidelines. One you have agreed something they will comply with that.	Fortis Benelux
	Once we have come across that breakeven point and have grip on the situation we will deliver much faster. And in various businesses time-to-market is very important for us.	Fortis Benelux
User satisfaction Time-to-market	We have business lines which are more commodity, such as Retail Banking and Operations, that do not have real complex requirements. There they have experienced outsourcing as positive. If you have written down your requirements properly, Turkey performs another check that makes the quality even better. It takes a bit more time, but the business thinks it is worth. On the other hand we also have a number of Wholesale Banking Businesses. Very complex matter that is very hard to describe. What you see is that in Turkey some products are interpreted differently than in Belgium or the Netherlands. As a result much overhead arises in the communication process. This is not desirable since these businesses have to perform under great time pressure. However, the largest volumes	Fortis Benelux

	are at the commodity-side. From that perspective, I think two third is satisfied and one third does not have an opinion or is slightly negative.	
Performance	If we look at the benchmark it turns out that they are market average. As far as that is concerned their performance is standard.	Fortis Benelux
Avoidance of obsolescence risk	Eventually we will dispose ourselves of this obsolescence expertise, but financially we will not settle a business case on short notice.	Fortis MPB
User satisfaction	How things went internally is a pity. Now the business thinks of it as a normal way of working. They are interested in the transparency that is created. They are moderately satisfied.	Fortis PB