The Retained Organization after IT Outsourcing

- The Design of its Organizational Structure -

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Master thesis

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Preface

This master thesis is the last part of my study Systems Engineering, Policy Analysis and Management (Technische Bestuurskunde) at Delft University of Technology, faculty of Technology, Policy and Management, section of Information and Communication Technology. The master thesis study was conducted during 8 months going through piles of documentation, books and publications.

I had interviews with board members and managers of leading companies active in the field of outsourcing and I would like to thank Mr. J.C.M. van Rooden, Mrs. I. Regien, Mr. J.D. Houtman, Mr. U. Groen, Mr. R. Wortel and Mrs. P. van Sprounsen for the time they made available for me giving interviews on the outsourcing subject. It was helpful for me to compare the theoretical part with the practice.

I very much appreciated the help and advice of dr. ir. G.M. Wijers and want to thank him for his time and valuable remarks during those eight months. It kept me alert and motivated to finalize my research on such a relatively new and therefore complex subject, resulting in quite a detailed and comprehensive report.

I am also thankful to prof. dr. R.W. Wagenaar and dr. ing. M.A. Zegveld for their supervision. They monitored the requirements for graduation on this project to ensure its scientific quality.

Anton Joha,

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Executive Summary

In planning IT outsourcing, organizations seem to have difficulties in deciding which specific roles and capabilities have to be retained in order to manage the IT supplier appropriately. Some roles will become redundant and should be changed, while other roles, which are not available, will have to be added. In this way a new IT organization has to be built up.

The main research question to be answered is stated in chapter 1:

What is the organizational structure of the retained organization after IT outsourcing in terms of capabilities and roles and what are the factors, which determine the location and the relevance of those capabilities and roles?

The retained IT organization is the primary source in mitigating risks and we distinguished four elements to accomplish this: (1) providing knowledge and expertise, (2) monitoring the supplier, (3) managing the relationship and (4) maintaining the power balance between the client and the supplier.

A theoretical framework of core capabilities, described by (Feeny and Willcocks, 1998), has been used as basis for the research. By means of information extracted from five interviews conducted by five different companies (Aegon, CSM, Eneco, SVB and Xerox) and from the integrated IPW™ model, this theoretical framework of Feeny and Willcocks has been revised and refined.

The IPW model has been chosen for several reasons. First, it integrates five well-known existing methods/models, namely (1) ITIL, (2) ASL, (3) Prince2, (4) ISPL and (5) CMM, which makes it more complete than any of the other individual methods and models.

Second, the integrated IPW™ model makes a clear distinction between the business domain, the ICT domain and the supplier domain, also identifying the processes within the IT organization to align those three domains.

Third, the alignment of the capabilities with processes is very useful in this case, as processes, in comparison with capabilities, more clearly specify the retained activities, giving a distinct picture of how to link certain activities to a specific individual role.

The five companies have been chosen because they all have a relatively long experience with IT outsourcing, which makes a stable, efficiently and effectively functioning retained organization most likely.

By comparing Feeny and Willcocks’ framework with the IPW model and by comparing those capabilities with the retained activities of the five different companies, three changes have been made to the framework of Feeny and Willcocks. Two capabilities, ‘vendor development’ and ‘making technology work’ have been removed, while the ‘project management’ capability has been added to the framework.

The ‘making technology work’ capability does not have to be retained by the client, as it is both technical and operational and therefore the responsibility of the supplier. This is
confirmed by all five interviews and by the IPW model, which does not recognize a process that corresponds to the ‘making technology work’ capability. The ‘vendor development’ capability has to be maintained but cannot be distinguished as a specific role. Creating added value happens at each level and in each management area and this specific capability can be incorporated within all the other capabilities. Moreover, ‘vendor development’ is not a specific characteristic capability for IT outsourcing and therefore this capability is excluded from the framework. Again, this is confirmed by all five interviews and by the IPW model, which does not recognize a process that corresponds to the ‘vendor development’ capability.

The capability ‘project management’, on the contrary, is added to the framework. Project management is the application of knowledge, skills, tools, and techniques to plan and execute activities that meet or exceed client needs and expectations from a project. The retainment of this capability is confirmed by the five interviews we conducted and by the IPW model, which recognizes two processes that correspond to the ‘project management’ capability.

Finally, eight capabilities have been identified to be necessary to retain. Those eight capabilities have been divided into six areas and are listed below, together with their corresponding roles.

1. The business area, consisting of the business systems thinking and relationship building capabilities, is concerned with defining business strategy and functionality and managing relationships with users. The roles within this area are: the business manager, the information manager, the business analyst and the user.

2. The contract management area, containing the informed buying and contract facilitation capabilities, is about evaluating the supplier and supplier market and negotiating the contract and contract changes, taking into account all the relevant aspects of the contract including financial, legal, technical and business knowledge. The roles within this area are: the contract manager, the IT financial controller, the IT procurement officer, the legal advisor (outsourced itself or not) and the relationship manager.

3. The leadership area, consisting of the leadership capability, focuses on IT envisioning and governing and budgeting the service delivery and IT processes at the highest level. The roles within this area are: CEO, CFO, CIO and the IT director.

4. The project management area consists of the project management capability and is involved with activities such as defining the project, identifying and planning project activities, minimizing risk and managing the project, the resources and project team members. The role within this area is: the project manager.

5. The service management area consists of the contract monitoring capability. It is involved with performance monitoring and managing the day-to-day relationship with the supplier and users. The role within this area is: the service manager.

6. The technical area is concerned with the architecture planning capability and is fundamental for the design of the architectural blueprint in order to support the internal and external connectivity of the organization. The roles within this area are: the systems architect, the application architect, the technical architect and the data architect.
The roles form the building blocks of the organizational structure of the retained IT organization that has to be created by the client organization. These areas are always kept in-house some way or another, whatever the situational factors or circumstances may be. However, the location and the relevance of the different roles are to a certain extent variable and the ways in which the roles can be integrated, duplicated and structured are almost infinite and depend on many factors.

There are several factors influencing the interrelated structure and location of the roles. The main factor influencing this decision is the corporate governance structure, although there are other factors, which might affect the location. These factors are, besides the corporate governance structure: (1) firm size, (2) diversification mode, (3) diversification breadth, (4) exploitation strategy, (5) absorptive capacity, (6) culture and (7) IT heritage. There are three options available for the structure of the retained organization, a centralized, a federal or a decentralized IT governance structure. The choice of the IT governance structure determines where the roles have to be located within the retained organization.

There are also factors, which influence the relevance of the roles. A distinction has been made between factors relating to the client organization and factors relating to the IT services. The factors related to the client organization are (1) the IT outsourcing strategy, (2) the amount of staff involved, (3) the IT governance structure, (4) the contract value, (5) the contract detailedness, (6) the complexity of business processes and (7) the duration of the contract. The factors related to the outsourced IT services are (1) the kind of IT service, (2) the complexity, (3) the criticality, (4) the unspecifiability, (5) the immeasurability, (6) the uncertainty and (7) the specificity.

The relevance of the role is important in order to determine which and how many individual(s) can fulfill the role. When the relevance of a certain role increases, it implies that either a higher quality of the individual fulfilling that role is required, or that more individuals are necessary to fulfill that specific role. When the relevance of a role decreases, it implies that this role might well be integrated with (an)other role(s), which can all/ both be fulfilled by one individual. The people within the retained organization should be highly skilled individuals.

Although it does not contribute to resolving the main research question, a design method has been described to complete the necessary steps for the successful implementation of the retained organization after IT outsourcing. This has been described in order to integrate the research information in a logical and structured way. Five steps have been distinguished, namely (1) identifying the IT portfolio, the objectives and the risks involved (2) designing the central and/or decentralized responsibility structure (3) determining the relevance of the roles (4) matching the ‘right skilled’ people with the roles and (5) implementing and evaluating the retained IT organization.
1 Introduction and Research Aims

1.1 Introduction
When organizations decide to outsource a substantial amount of their IT services, preparation is fundamental. However, it turns out that most organizations consider the whole preparation complete when the outsourcing contract is signed (Feeny and Willcocks, 1997). This is quite remarkable as the phase before the contract is signed is marginal in length when compared with the total contract period, which on average lasts five years. At this point namely choices should have been made about the retention of key staff, responsible for managing the IT outsourcing contract. Certain roles will become redundant and should be changed, while other roles, which are not available, will have to be added. In this way a new IT organization has to be built up. The organizational structure of the retained IT organization, the roles which should be maintained, and the factors influencing the location and the relevance of those roles, are subject of this research.

1.2 Background
Although all kinds of outsourcing have been around for a long time, the first real wake-up call for CIO’s was in 1989 when Kodak decided to outsource its IT, including mainframes, telecommunications, and PCs. Since then, two factors have affected the growth of IT outsourcing, (1) the recognition of strategic alliances and (2) the quickly evolving changes in the technological environment (McFarlan and Nolan, 1995).
A strategic alliance provides an organization with a strong partner to complement areas of weakness, giving stability in a turbulent world. Moreover, there is an opportunity to innovate synergistically, from which both parties will benefit.
The information technology's fast changing environment demands that organizations put a lot of time and money in managing the IT business arena, while in fact they have to focus on their core competencies. This is why IT outsourcing has become a viable alternative for companies to get access to appropriate skills.
IT outsourcing has outlived the five-year period typical of a management fad. Global market revenues have grown from $US 9 billion in 1990 to a projected $US 150 billion in 2004. By 2004 that adds up to an estimated average of between 30-35% of a corporation's IT budget. But despite all the success stories and advantages, the practice of IT outsourcing continues to be a high-risk, hidden-cost process (Kern and Willcocks, 2001). Up to a third of organizations encounter serious and difficult problems in their IT outsourcing deals (Kern and Willcocks, 2001).
1.3 Research problem and questions

In IT outsourcing we distinguish between the supply organization (or the supplier), which provides and delivers the IT services required and the demand organization (the client), which is responsible for determining the specific IT needs within the organization. In planning IT outsourcing, it proves to be a difficult task for an organization to decide which specific roles and capabilities have to be retained and which have to be transitioned. The executive level of an organization has to agree about splitting the company’s personnel into two distinct groups. One group is transitioned to the supplier, while the other group remains in the so-called ‘retained organization’. This does not imply that all the roles and capabilities of the people that remain continue to be the same. Some roles will become redundant and should be changed, while other roles, which are not available, will have to be added. In this way a new IT organization has to be built up.

Most of the employees within the IT department of the outsourcing organization will become employed by the IT supplier. Executives, selected key management members, and some technical personnel on the contrary will remain behind within the company as part of the supervising and negotiation team. Findings suggest (Kern and Willcocks, 2000) that outsourcing seemingly is only successful when the relations between the client and the supplier are effective and functioning. To build such relations, active management involvement is required. This is one of the weakest areas in the current IT outsourcing practice and is rarely adequately thought through at the beginning of an outsourcing deal (Willcocks and Lacity, 2000; Lacity and Willcocks 2000a). So, although clients might think that they can stand back and monitor at the moment the supplier takes over their services, findings highlighted that 70% of the managers’ time in post-contract management is spent on managing the relationship (Kern and Willcocks, 2000). In order to keep organizational as well as intellectual control over the IT supplier and to benefit from outsourcing in the best possible way, it is necessary to define the (new) roles and capabilities within the retained organization in order to manage the whole process appropriately. Therefore, the following research questions have been formulated.

1.3.1 Main question

Main research question:

What is the organizational structure of the retained organization after IT outsourcing in terms of capabilities and roles and what are the factors, which determine the location and the relevance of those capabilities and roles?

The capabilities and roles are related because the capabilities finally have to be translated to roles in order to establish the retained organization with well skilled individuals. The location of the roles within the retained organization depends on the so-called IT governance structure. This structure can either be centralized, decentralized or federal, which is a combination of both centralized and decentralized. Therefore, the factors determining
which IT governance structure is desirable, are the same as the factors, which determine the location of the roles.

In defining the factors that determine the relevance of the capabilities and roles, two main areas will be taken into account: (1) the demand organization with its organizational factors and (2) the supply organization with its IT service factors.

An organization will be defined as a ‘company, corporation, firm, enterprise, authority or institution, or part or combination thereof, whether incorporated or not, public or private, that has its own functions and administration’ (ANSI, 1994). The client is used to denote the buying organization, while the supplier refers to the company providing services under a contract. Figure 1.1 gives a schematic overview of the research dimensions. As we can see, the core capabilities determine which roles have to be retained, while the two factor groups determine where the roles have to be located (location) and how many (relevance).

Figure 1.1: Schematic overview of the client and the IT supplier and the factors determining the location and relevance of the retained roles.

1.3.2 Sub-questions

The main research question stated above has been divided into sub-questions. These sub-questions have been divided into several parts and are described below.

**Concerning IT outsourcing and both organizations involved (chapter 3)**

It is important to understand why a well-staffed retained organization has to be put in place and what the difficulties of IT outsourcing are. We therefore propose the following sub-questions:

- What are the intrinsic difficulties of IT outsourcing?
- What risks are involved in IT outsourcing?

**Concerning the capabilities and roles (chapter 4 and 5)**

The research will use existing theory for identifying the necessary retained capabilities and roles. We define the following sub-questions:
- In what way is Feeny and Willcocks’ theoretical framework of nine IT core capabilities revised?
- Which of the studied existing methods/models corresponds best to the described retained roles after IT outsourcing?

Concerning the factors which determine the location of the roles (chapter 6 and 7)
The research leads to a variety of factors, which determine the location, and the relevance of the retained roles. We define two sub-questions:
- How do the factors influence the location of the roles within the retained organization?
- How do the organizational and service factors influence the relevance of the roles within the retained organization?

Concerning a design method (chapter 8)
The research information can be used to design a method for the successful operational implementation of the retained organization in terms of its roles. This chapter does not contribute to resolving the main research question, but is used to integrate the research information in a logical way and to present a design method for the retained organization. Therefore the following sub questions have been defined:
- Which steps can be identified to implement the roles within the retained organization?
- What is the output of each step?

1.4 Objectives and relevance
The objectives of the research are:

(i) To identify the different roles and capabilities necessary to manage an IT outsourcing relationship;
(ii) To identify the factors which determine the location and the relevance of the roles within the retained organization;
(iii) To determine in what way the identified factors influence the location and relevance of the roles.

The research will contribute to the development of models for the organizational structure of the retained organization after IT outsourcing in terms of capabilities and roles. Kern and Willcocks (2000) remark that ‘the area in IT outsourcing that has received the least research attention so far, is the outsourcing relationship, and more precisely the characteristics that describe such a relationship’. The fact that at this moment not much theory is available about the way companies have to deal with the retained organization is extra emphasized by Kern and Willcocks (2001), who call the retention of in-house capabilities ‘the outstanding and major, neglected issue in IT outsourcing’.

Because IT outsourcing is a proven business strategy which, according to Gartner (IT outsourcing growing, 2003) and the Outsourcing Institute (Joseph, S, 2002), will only grow
and develop in the coming years and because research proves that companies do have difficulties in establishing an organizational structure for the retained organization, it is clear that there is a need for more knowledge in this area (Lacity and Willcocks, 2000a; Willcocks and Lacity, 2000).

1.5 Research methodology

We investigated the existing research literature on several relevant topics, including the different roles and capabilities in IT management, the organizational structure of IT departments, the outsourcing relationship and the retained in-house capabilities important for post-contract management. We gathered information about:

- The objectives and risks associated with IT outsourcing;
- The core capabilities which are of importance to the retained organization after IT outsourcing;
- The relevant processes within the integrated IPW™ model;
- The different roles described in the existing methods ITIL, ASL, Prince2, ISPL and CoBit;
- The factors which determine the relevance of the capabilities and roles within the retained organization;
- The different organizational structures of the IT function;
- The factors, which affect the organizational structure of the IT function.

By identifying the objectives and risks involved during an IT outsourcing process, it becomes possible to determine the necessary capabilities of the retained organization to fulfill its primary task, mitigating risks and keeping the contract fresh and mutually useful (Kern and Willcocks, 2001) in order to meet the overall objectives of the company [Chapter 2 and 3]. However, further confirmation about the activities within the retained organization is required. The research literature mentions one important article concerning this subject, the framework of IT core capabilities provided by (Feeny and Willcocks, 1998). More information is extracted from interviews with Aegon, CSM, Eneco, SVB and Xerox and from a well-known existing process model, the integrated IPW model. This eventually leads to a revision of the framework by Feeny and Willcocks and a new description of those capabilities that definitely have to be retained [Chapter 4].

Having identified the capabilities and processes of the retained organization, we are now able to identify and detail the roles, which have to be retained. First, the different roles within several existing methods (ITIL, ASL, Prince2, ISPL and CoBit) are compared and linked to the earlier mentioned IPW processes. Then the retained roles are identified and described [Chapter 5].

When the retained roles are identified, their location within the retained organization has to be determined. The location of the roles depends on the IT governance structure. There are three options available for the structure of the retained organization, a centralized, a federal or a
decentralized IT governance structure. There are several factors influencing the choice of the IT governance structure, which have been identified [Chapter 6].

Next, the relevance of the retained role has to be determined in order to find out whether certain roles can be integrated or have to be duplicated. When the relevance of a certain role increases, it implies that either a higher quality of the individual fulfilling that role is required, or that more individuals are necessary to fulfill that specific role. When the relevance of a role decreases, it implies that this role might well be integrated with (an)other role(s), which can all/ both be fulfilled by one individual. The factors influencing the relevance of the retained roles have been identified. A distinction has been made between factors relating to the client organization and factors relating to the IT services [Chapter 7]. Finally, in order to integrate the research information in a logical way, a design method has been described to complete the necessary steps for the successful implementation of the retained organization after IT outsourcing [Chapter 8].

1.6 Structure of the thesis

The first three chapters of this thesis are more or less introductory. Chapter 1 states the main research question and its sub questions, the research methodology and the objectives and relevance of the research. Chapter 2 serves as a basic introduction to IT outsourcing. It discusses the objectives of IT outsourcing. Chapter 3 is about the outsourcing relationship itself, the risks involved and clarifies the importance of a well-staffed and structured retained organization. Chapters four, five, six and seven are the core part of the research. Chapter 4 describes the IT core capabilities that should always be retained and links them to the relevant processes within the integrated IPW model. A revised model of retained capabilities is presented. Chapter 5 will introduce the different IT roles as described in relevant existing methods and project and process models and finally describes all the roles and role definitions, which have to be retained. Chapter 6 identifies the three different organizational structures and the factors affecting the location of the roles. The factors influencing the relevance of the roles are described in chapter 7. Also the way in which these factors influence the relevance of the roles is subject of this chapter.

Chapter 8 does not, as already noted, help resolving the main research question, but is used to integrate the research information in a logical way. It presents a design method, giving an overview of the steps and actions, which have to be taken in order to successfully, implement the retained organization after IT outsourcing. Chapter 9 ends the thesis with conclusions and recommendations. Figure 1.2 gives a schematic overview of the chapter structure.

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**Figure 1.2: Schematic overview of the chapter structure**
2 IT Outsourcing and its Context

This chapter serves as an introduction to the concept of IT outsourcing. The first section states the used definition of IT outsourcing, while the second section describes the role of IT governance, the broader framework of which IT outsourcing is part. In section three an overview is given of the different objectives of IT outsourcing.

2.1 Definition

Many definitions have been used in the literature to describe the concept of IT outsourcing. According to Yang and Huang (2000), those definitions encompass three components, namely:

1. The supplier takes over part or all of an organization’s IT/IS functions;
2. The supplier should take responsibility;
3. The client transfers IT/IS functions to the supplier as well as employee and part of the computer facilities.

We will define IT outsourcing following Wijers (2003) and Kern and Willcocks (2000) as:

\[\text{The transfer of some or all of the organization’s IT assets, people and/or activities to a third party supplier, who in exchange provides and manages assets and services for monetary returns over an agreed time period.}\]

Information Technology (IT) is defined as any technology, including the computer hardware, software and telecommunications networks that perform data processing tasks, such as capturing, transmitting, storing, retrieving, manipulating, or displaying data. Information systems (IS) are systems that use information technology, combined with people, data resources, and other tools and techniques, to capture, transmit, store, retrieve, manipulate, or display information used in one or more business processes (Alter, 1999).

So IT refers to the supply of information-based technologies, while IS, which are more or less IT-based, is about the delivery of information to the needs of the client organization. To be consistent and clear we continue to use the more frequently mentioned term IT outsourcing to cover both IT and IS outsourcing.

Two kinds of IT outsourcing can be distinguished, (1) IT infrastructure outsourcing and (2) application outsourcing.

(1) IT Infrastructure outsourcing

With regard to IT infrastructure outsourcing, we make a distinction between (a) mainframe services, (b) midrange services, (c) desktop services and (d) network and telecommunication services.
(a) Mainframe services
Mainframes are large-capacity computer systems with processing power that is superior to PCs or midrange computers. They are generally used by large organizations to handle data processing for enterprise wide administrative tasks like payroll or accounts payable and require skilled technicians to program and maintain them. The provided services involve mainframe operations and mainframe engineering. The help desk can also be outsourced.

(b) Midrange services
Midrange computers are computing devices that are typically more powerful than a PC, but less powerful than a mainframe. The supplied services consist of midrange operations and midrange engineering for operating systems such as UNIX, AS/400 and Windows. Also the help desk can be outsourced.

(c) Desktop services
These services include the acquisition, maintenance and ongoing management of PC hardware and software assets. The help desk can also be outsourced.

(d) Network and telecommunication services
The full range of network and telecommunication services includes: Wide Area Network (WAN); Local Area Network (LAN); Voice (including Mobile) video and data communications; Remote Access; Internet; Intranet; Extranet; Security Services and Network Management.

(2) IT application outsourcing
Concerning IT application outsourcing we make a distinction between (a) application support and maintenance and (b) application development.

(a) Application support and maintenance
Support and maintenance of the application means keeping the application and technical environment up-to-date with the latest software releases and ensure on-line availability and delivery to an agreed service level. Help desk support can also be provided, again to an agreed service level.

(b) Application development
Application development does not only refer to programming, but also to the larger overall process of defining application requirements, planning the application structure, developing the code, monitoring development progress and testing results.
Figure 2.1 gives a schematic overview of the different categories within IT outsourcing that have been distinguished.

![Figure 2.1: The different categories within IT infrastructure and application outsourcing](image)

### 2.2 IT governance

The decisions about and around an IT outsourcing transition are part of a much broader framework, called IT governance. The IT Governance Institute (The IT governance institute, 2001) defines it as follows:

> ‘IT governance is the responsibility of the board of directors and executive management. It is an integral part of enterprise governance and consists of the leadership and organizational structures and processes that ensure that the organization’s IT sustains and extends the organization’s strategies and objectives.’

Whereby enterprise governance is (The IT governance institute, 2001):

> ‘The set of responsibilities and practices exercised by the board and executive management with the goal of providing strategic direction, ensuring that objectives are achieved, ascertaining that risks are managed appropriately and verifying that the enterprise's resources are used responsibly.’

Because of the expanding role of technology, IT governance has become a critical component of enterprise governance. To achieve success in this information economy, IT governance and enterprise governance can thus no longer be considered as separate and distinct disciplines. Enterprise governance is about addressing the individual and group expertise and experience where it can be most productive, but also about monitoring and measuring performance and providing assurance to critical issues. Information technology (IT) was long considered solely to be an enabler of the enterprise's strategy, but now regarded as an integral part of that strategy. And this is the key task of IT governance, which provides the structure that links IT processes, IT resources, and information to enterprise strategies and objectives. It provides optimal ways of planning and organizing, acquiring and implementing, delivering and supporting and monitoring IT performance. By assuring efficient and effective measurable
improvements in related enterprise processes, IT governance is of major importance to the
success of enterprise governance. Because the subject of this research, defining the organizational structure of the retained
organization after IT outsourcing, is part of IT governance, we also have to look at the overall benefits of good governance. It enables the enterprise to take full advantage of its information, thereby maximizing benefits, capitalizing on opportunities and gaining competitive advantage (Lainhart IV, 2000). It maximizes the revenues by deploying resources to the highest possible level and minimizes business risks through better planning and streamlining the operations and information within the organization. Moreover, the confidence in the organization for all stakeholders increases. This will result in significant cost savings because of the reduction of duplications, cancellations, penalties, losses and damages (Hamaker, 2003).

2.3 IT outsourcing objectives

The concept of IT outsourcing has been associated with many advantages. Based on existing, we gathered several outsourcing objectives, goals, advantages and reasons for organizations to outsource their IT literature (Quinn and Hilmer, 1994; Earl, 1996; Looff, 1997; DiRomualdo and Gurbaxani, 1998; Lacity and Hirschheim, 1999; Quinn, 1999; Lacity and Willcocks, 2001). These have been divided into three main categories, namely (1) financial objectives, (2) business objectives and (3) technical objectives. We are aware of the fact that the described objectives stem from different strategy perspectives, which approach and incorporate technology in different ways and from different reference points. However, it is not our intention to sum up a scientifically correct list of internally consistent strategy groups, but merely to show the rich landscape of reasons why organizations outsource some or all of their IT resources at all.

For further details about the various distinctions between strategies, we refer to (Zegveld, 2003), where an overview is given of the different strategies and their characteristics.

2.2.1 Financial objectives

Financial objectives are those objectives that relate to the financial aspects of outsourcing. We identified three different objectives to be of importance, (1) cost reduction, (2) changing fixed into variable costs and (3) cash infusion.

(1) Cost reduction

Companies can realize cost reduction by reducing or eliminating all kinds of IT operational costs and facilities costs, when all the IT facilities and resources become the responsibility of the supplier. The operational costs are costs directly related to operating the service and involve employees and all the necessary elements to support IT services such as system and network administration. Facilities costs are associated with the operations and maintenance of space, buildings and equipment necessary to deliver services, including floor-space, power consumption and facility management. The fact that the supplier, who is specialized in the performance of a particular task, will have developed certain economies through its experience and investment of resources, is an
important advantage contributing to cost reduction. It allows the supplier to perform the same
tasks more efficiently than the client. Moreover, in a cost controlled environment, users are no
longer able to request unneeded changes, but instead, are required to submit requests through
a formal cost control process.

(2) Changing fixed into variable costs
In order to run an IT department effectively, a company has a number of fixed costs, which
cannot be avoided. These costs, as we already mentioned above, include employees, space,
hardware, software, licenses, and so on. If a company decides to outsource its IT services, it
can erase these fixed costs. This means that the company only pays for the services the
company requires.

(3) Cash infusion
By selling some of the assets to the supplier the client can realize a significant cash infusion
as a result. Many companies have done this with their infrastructure, facilities and data
centers.

2.2.2 Business objectives
Business objectives focus on elements of organizational efficiency and effectiveness. We
discuss four business objectives, (1) focus on core competence, (2) commercial exploitation,
(3) organizational change and (4) flexibility and continuity.

(1) Focus on core competence
This objective allows an organization to concentrate their limited resources on a relatively few
knowledge-based core competencies that actually drive business growth and operational
efficiencies. According to Hamel and Prahalad (1996) resource leverage can be achieved in
five fundamental ways: by more effectively concentrating resources on key strategic goals, by
more efficiently accumulating resources, by complementing resources of one type with those
of another to create higher order values, by conserving resources wherever possible and by
rapidly recovering resources to increase the value extracted.
While the client can concentrate on its core capabilities, the (routine) IT functions can be
outsourced to a qualified supplier. In short, the company is free to concentrate on its core-
business, and the supplier can also concentrate on its core business, keeping the client
satisfied with its information technology.

(2) Commercial exploitation
The objective of commercial exploitation is to improve the return on IT investment by
generating new revenue and profit or by offsetting costs. The means by which IT assets can
be leveraged commercially range from licensing systems and technologies developed initially
for internal use, through selling IT products and services to other companies, to launching
new IT-based businesses. This might be beneficial for companies that have innovative,
mission-critical information systems that are expensive to maintain and enhance. But also for
companies that have difficulties in acquiring, developing and retaining the people and technical know-how necessary to maintain complex systems and implement new ones. The investment of the client becomes only viable, when the broader revenue potential of commercial exploitation is taken into account (DiRomualdo and Gurbaxani, 1998).

(3) Organizational change
Transformations within the organizational structure can be made for a variety of reasons. Changes in strategy, tasks, relationships and coordination mechanisms are just a few. In those cases, companies can use outsourcing as a change agent when they want to alter their overall structure. Outsourcing in this way, can be viewed as a means to solve technical incompatibilities, absorb redundant IT assets and absorb unnecessary personnel generated by reorganizations, mergers or acquisitions.

(4) Flexibility and continuity
As a consequence of a faster changing competitive environment and rapid developments in IT, organizations are facing an increased need for flexibility and continuity. Consequently the technical resources also need to change, often just as quickly. As the capabilities and capacity of the internal IT department are limited by the capabilities and capacity of the current IT staff and technology, the required flexibility and continuity can be achieved by an IT supplier, which can respond more adequately to the changing demands.

2.2.3 Technical objectives
The technical objectives are related to the technical performance of the IT services. We distinguished three technical objectives namely, (1) technological improvement, (2) access to technical expertise and (3) access to new technologies.

(1) Technological improvement
This objective relates to companies that want to improve their IT services in one way or another. Since technology is probably the quickest evolving entity in today's business world, it is time and money consuming for an IT department to keep up with the current speed of technical expertise and equipment. The supplier's investments in people, technology and processes enable a level of service and quality that is difficult and expensive to attain for organizations attempting to handle their own (non-core) IT functions.

(2) Access to technical expertise
Because information technology is a very complex and dynamic field, the company may well be confronted with a shortage of qualified workers. All kinds of factors, including staff shortages, lack of experience in key technologies and competing in-house projects, can delay in-house development and projects. By outsourcing part of the IT the company may avoid problems in hiring and maintaining qualified employees. Additionally, the company may need less executive managers that are capable of guiding a large IT department.
(3) Access to new technologies
Outsourcing can provide better access not only to proven best practices, but also to next practices just as quickly as they are developed, such as industry specific software, technical software or superior equipment. Because business strategy so often turns with technology, this early access to new IT capabilities can be a distinct advantage in a competitive market.

2.4 Summary
IT outsourcing is defined as ‘the transfer of some or all of the organization’s IT assets, people and/or activities to a third party supplier, who in exchange provides and manages assets and services for monetary returns over an agreed time period’ (Wijers, 2003; Kern and Willcocks, 2000). Two kinds of IT outsourcing can be distinguished, (1) IT infrastructure outsourcing, consisting of mainframe services, midrange services, desktop services and network and telecommunication services and (2) IT application outsourcing consisting of application support and maintenance and application development.

The decisions about and around an IT outsourcing transition are part of a much broader framework, called IT governance which is defined as ‘IT governance is the responsibility of the board of directors and executive management. It is an integral part of enterprise governance and consists of the leadership and organizational structures and processes that ensure that the organization’s IT sustains and extends the organization’s strategies and objectives’ (The IT governance institute, 2001).

There are many reasons why organizations decide to outsource their IT services: financial reasons, involving (1) cost reduction, (2) changing fixed into variable costs and (3) cash infusion; business reasons involving (1) focus on core competence, (2) commercial exploitation, (3) organizational change and (4) flexibility and continuity; and technical reasons involving (1) technological improvement, (2) access to technical expertise and (3) access to new technologies.

The next chapter will pay attention to the risks related to IT outsourcing and the role of the retained organization in mitigating those risks in order to meet the predefined objectives described in this chapter.
3 The Relationship, Risks and Retained Organization

To understand why a well staffed and structured retained organization is an inevitable component of IT outsourcing, we have to get a better understanding of the risks companies face when they are involved in an IT outsourcing relationship. First of all we take a look on the existing literature about the outsourcing relationship and will discuss this in section 1. The intrinsic characteristics of IT outsourcing, showing its difficulties, have been listed in section 2. In the third section the different risks and risk factors of IT outsourcing are identified and finally, in section 4, the importance of the retained organization is explained.

3.1 Existing literature about IT outsourcing relationships

Relationships in IT outsourcing have received by far the least research attention to date in IT outsourcing according to Kern and Willcocks (2001). They mention that past research mainly concentrated on outsourcing’s determinants, benefits, supplier selection, and contracting. This is quite remarkable as the pre-contract phase in length is marginal in comparison with the post-contract management period, which on average lasts five years in terms of contract length.

Overseeing and comparing the very few studies on IT outsourcing relationships, Kern and Willcocks (2001) make several important points:
1. The understanding of the outsourcing relationship is still at an early stage and no generally accepted framework has yet been developed or identified.
2. Little overlap exists between the different research approaches and therefore no common elements could be identified.
3. The majority of earlier research was found to be conceptually or empirically inconclusive.
4. The use of other relationship frameworks was problematic, as they require considerable improvements before they can be used to investigate and explain the outsourcing relationship.
5. The research studies reveal quite a lot of ambiguity around the term relationship. Moreover, most discussions about outsourcing relationships were found to be ambiguous because it was not always clear whether they were referring from an organizational or individual point of view. A useful definition has to integrate both levels and we will, following (Kern and Willcocks, 2001) define the outsourcing relationship as:
The state where a client and supplier organization are connected or related via certain individuals for the duration of the contract period of an outsourcing venture.

3.2 The intrinsic characteristics of IT outsourcing

There are several intrinsic characteristics of IT outsourcing, which tend to make IT outsourcing more complex than other projects or other forms of outsourcing such as cleaning or catering. We divide those characteristics into two different groups: (1) intrinsic organizational characteristics and (2) intrinsic IT service characteristics. Those two characteristics will affect the IT outsourcing contract as shown in figure 3.1.
3.2.1 Intrinsic organizational characteristics

First of all, both parties, the client and the supplier, have their own, often conflicting, objectives. The client typically wants the best service(s) at the lowest cost, while the supplier tries to maximize its profit margins by diminishing the operational costs and charging premium prices for new value added services (Lacity and Willcocks, 2000b). To show the differences, it is interesting to sum up the different stakeholders involved in an IT outsourcing process. An IT stakeholder group consists of people with the same expectations, perceptions and goals for IT and outsourcing. Lacity and Willcocks (2000b) identify seven types of IT stakeholders, four client IT stakeholders and three supplier stakeholders.

- **Client Senior Business Managers**: Although the senior business managers are responsible for achieving business results from IT outsourcing, they do not have the tools to assess whether the IT function is adding business value. They are mainly interested in the financing and costs of IT.

- **Client Senior IT Managers**: Senior IT managers maintain the focus on balancing IT costs and services throughout an IT outsourcing process. They are responsible for balancing the costs of IT with the services provided to ensure value for money.

- **Client IT Staff**: The client IT staff is responsible for the IT service delivery. They serve the users and are expected to stay within budgets and deadlines.

- **IT Users**: IT users typically focus on IT service excellence, expecting systems to be running in order to provide business functionality and to facilitate the execution of their business responsibilities.

- **Supplier Senior Managers**: The supplier senior managers are responsible for sales and negotiations. They must balance the need to satisfy the client with the need to generate a profit for their organization.

- **Supplier Account Managers**: The responsibility for profitability and client satisfaction on a given IT contract is with the supplier account managers. They must strike a delicate balance between the often conflicting goals of service excellence and cost containment.
**Supplier IT Staff:** The primary concern of the supplier IT staff is to provide good service to the client. Although they aim to please the client, they are well aware of budget and time requirements and the fact that the supplier must earn a profit.

In table 3.1 an overview is given of the different stakeholders involved in an IT outsourcing process and their expectations/goals.

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>IT Expectations/Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Client senior business managers</strong></td>
<td>Client senior business managers expected demonstrated business value for IT expenditures. Inability to assess the benefits of IT often caused senior business managers to focus on IT costs.</td>
</tr>
<tr>
<td><strong>Client senior IT managers</strong></td>
<td>Client senior IT managers balanced service excellence expectations from users with cost containment expectations from senior business managers.</td>
</tr>
<tr>
<td><strong>Client IT staff</strong></td>
<td>As technical enthusiasts, client IT staff focused primarily on service excellence, but within budget and time constraints.</td>
</tr>
<tr>
<td><strong>Client IT users</strong></td>
<td>IT users expected service excellence. Cost implications were often not apparent due to centralized accounting and contracting for IT.</td>
</tr>
<tr>
<td><strong>Supplier senior managers</strong></td>
<td>Supplier senior managers negotiated deals that would satisfy the client while maximizing profits.</td>
</tr>
<tr>
<td><strong>Supplier account managers</strong></td>
<td>Supplier account managers balanced client service and profitability.</td>
</tr>
<tr>
<td><strong>Supplier IT staff</strong></td>
<td>As technical enthusiasts, supplier IT staff primarily focused on service excellence, but within budget and time constraints.</td>
</tr>
</tbody>
</table>

*Table 3.1: Stakeholder expectations and goals (based on Lacity and Willcocks, 2000b)*

The opposition in business interests will always play an important role in the interaction between the client and the supplier. Clients that underestimate the time and attention required to manage the outsourcing relationship or even hand over the management responsibility to the supplier have to know that they cannot rely on the supplier, simply because the supplier’s agenda will not be in sync with the client’s business objectives. Lack of oversight and management will cause problems.

Another issue contributing to difficulties between the client and the supplier is the different timing of benefits (McFarlan and Nolan, 1995). The first-year benefits for the client are clear; usually the client receives a one-time capital payment and feels relieved to shift its problems and issues to another organization. Moreover, the payments in the first year occur in an environment in which the expectations and outputs most closely resemble those anticipated in the contract, while in each subsequent year, the contract payment stream becomes less and less tied to the initial set of planned outputs (as the world and business environment changes) and becomes more subject to misunderstanding and negotiation. The situation from the supplier’s perspective on the contrary is just the reverse. During the first year, there is a heavy capital payment followed by extraordinary costs for switching responsibility and executing appropriate cost-reduction initiatives. All this is done with the expected future profit flow in mind. Unfortunately, almost at precisely the time the supplier is finally moving into its earnings stream, the client is chafing under monthly charges and may feel the need for new IT technology and services. This can lead to extraordinary tensions in the relationship.
The final intrinsic organizational characteristic leading to difficulties within the relationship involves the cultural differences between people and between both parties, which can cause misunderstanding and mistrust. Those differences in culture involve for example the receptiveness of the client’s employees and management to change, the way the decisions in the client organization are made (e.g. top down or highly decentralized) and the entrepreneurial or conservative culture within the client organization. Also the difficult communication between IT specialists and users and the fact that they could not understand each other, is part of the general term: cultural differences (Bendor-Samuel, 2002; Feeny et al., 1996; Kern and Blois, 2002).

3.2.2 Intrinsic IT service characteristics

The second group of characteristics is associated with IT services. There are several intrinsic characteristics that distinguish IT outsourcing from other forms of outsourcing. Most important is that IT pervades, affects and even shapes most organizational processes in some way, which makes it a very critical and important part of the company (Kern and Willcocks, 2002). Because information technology integrates so many activities such as product design, material purchases, manufacturing processes, sales, and customer service, IT cannot be isolated easily. Outsourcing is difficult because suppliers do not always understand the implications that IT has for other business processes.

This is even more complicated because of the fact that information technology is not homogeneous, but comprises a wide variety of activities. Some IT applications enable business operations and management processes in a unique way, while other IT activities, such as accounting systems, which may seem less critical, have their value in the cross-functional integration of business processes (Lacity et al., 1996).

Another problematic fact is the incredible speed at which the IT capabilities continue to evolve, which makes it very difficult to predict the future IT needs. Most companies found that, by the third year of an outsourcing deal, the original contract hindered their adoption of new technologies (Lacity et al., 1996).

The difficulty of estimating the value of IT activities is also an issue, contributing to problems. Although in every industry price and performance improvements occur, in few do the underlying economics shift as fast as in IT. Computing resources may well cost 20 percent to 30 percent less next year, which makes it extremely difficult for the client to evaluate the long-term costs of outsourcing. While a 20 percent reduction of current IT costs for the next ten years may appeal to the client, after a couple of years, they may be paying the supplier above-market prices for computer resources (Lacity et al., 1996).

The final IT characteristic we will mention is about the large switching costs associated with IT sourcing decisions. When the contract is signed, the client merely is obliged to deal with the often difficult contract terms. When at some point the relationship deteriorates, it is almost
impossible for the client to find a new supplier in a short period of time, who can deliver the required IT services (Lacity et al., 1996).

<table>
<thead>
<tr>
<th>The two groups of characteristics</th>
<th>Intrinsic characteristics of IT outsourcing</th>
</tr>
</thead>
</table>
| Intrinsic organizational outsourcing characteristics | - Different objectives  
- Different timing of benefits  
- Different cultures |
| Intrinsic IT service characteristics | - IT pervades, affects and shapes organizational processes  
- Not homogeneous, but comprises a variety of activities  
- Fast pace of technology evolution  
- Difficult to estimate the value  
- Large switching costs |

Table 3.2: The intrinsic characteristics of IT outsourcing

Out of table 3.1, we can see that an IT outsourcing contract is a compromise between two elements:  
(1) The necessary detailedness in order to secure that both parties, with their different objectives, meet their obligations towards each other.  
(2) The necessary flexibility in order to anticipate for the quickly evolving business and IT changes and needs;

The detailedness of an outsourcing contract is necessary to withstand the intrinsic organizational characteristics, while the flexibility of an outsourcing contract is necessary to withstand the intrinsic IT service characteristics of IT outsourcing. However, those two factors are conflicting, although the degree to which the two factors conflict, depends on the effort and money the client puts in to balance cost/ benefit when maintaining the contract, as figure 3.2 shows graphically.

Figure 3.2 shows that the more detailed a contract is described, the less flexible it is and vice versa. By putting more effort and money in maintaining the contract, the client can reach a higher detailedness and also a higher flexibility, as shown by the diagonal arrow in the above
The considerations about how much effort and how much money is considered to be profitable and beneficial in maintaining the contract, is the responsibility of the client. The conflict between the detailedness and the flexibility of the contract seems to be the real intrinsic source of problems and difficulties, out of which potential outsourcing risks seem to evolve. In the next section we discuss which risks and which risk factors are involved.

3.3 IT outsourcing risks and risk factors

We already mentioned the several objectives related to IT outsourcing in chapter 2, now we will discuss the risks and risk factors associated with IT outsourcing (Lacity and Willcocks, 2000a; Earl 1996; Aubert et al., 1998a/b). We will define risk here as an undesirable outcome that has a known or estimated probability of occurrence based on experience or a given theory (Kern and Willcocks, 2001; Aubert et al., 1998a).

A risk factor is defined as a characteristic or condition that, when present, is associated with a higher probability of some undesirable outcome.

We will use the same categories in which we classified the objectives in the former chapter. For each category (financial, business and technical) we will describe the risks and the factors contributing to those risks, the risk factors, associated with IT outsourcing, which we distilled out of the existing research (Earl, 1996; Aubert et al., 1998; Lacity and Willcocks, 2000a; Kern and Willcocks, 2001).

3.3.1 Financial risks and risk factors

Here the financial risks will be described and then the financial risk factors associated with IT outsourcing (Earl 1996; Aubert et al., 1998a/b; Willcocks et al., 1999; Lacity and Willcocks, 2000a; Kern and Willcocks, 2001).

Financial risks

The most important financial risk in IT outsourcing is cost escalation due to unexpected, underestimated or hidden costs. From the moment the contract is signed, we can distinguish four different kind of costs involved in IT outsourcing, (1) the transition costs, (2) the costs for managing the IT outsourcing effort, (3) additional service costs and (4) the post IT outsourcing transition costs (Barthélemy, 2001; Lacity et al., 1995).

1. The transition costs refer to costs due to the transfer of the client’s IT assets, people and/or activities and include setup costs, redeployment costs, relocation costs, and parallel-running costs, and so on.
2. The management costs are those costs associated with managing the relationships and refer to the human resources that have to be put into managing an IT outsourcing contract.
3. The additional service costs are those costs necessary to maintain and make needed enhancements or costs that the client assumed were included in the contract, but which, in fact, were not. Those might involve maintenance on personal computers, sales tax on equipment purchases, rewiring for office moves and so on.
4. The post IT outsourcing transition costs, also referred to as retransition costs, occur when activities must be directed to a new supplier or when activities must internally be reintegrated.
When a new supplier has to be found, the costs involve finding that new supplier, drafting a new contract and transitioning resources. When activities have to be reintegrated, the costs involve building a whole new internal IT activity from scratch.

According to Earl (1996), companies often underestimate these costs, which can increase quite rapidly. The figure below (figure 3.3) shows the four different costs associated with IT outsourcing from the moment the contract is signed. The supplier search and contracting costs are included in the figure to show more precisely where the different kinds of costs are located within the IT outsourcing process.

**Figure 3.3: The costs of IT outsourcing associated with its phases (based on Barthélemy, 2001)**

**Financial risk factors**
The main financial risk of IT outsourcing is the escalation of costs, due to unexpected, underestimated or hidden costs. We will now describe the different risk factors contributing to that specific risk (see table 3.3 below).

<table>
<thead>
<tr>
<th>Financial risk</th>
<th>Financial risk factors</th>
</tr>
</thead>
</table>
| Escalation of costs  | 1. Opportunism of the supplier  
2. Inexperience with IT outsourcing  
3. Incomplete contracting  
4. Failure to build and retain requisite in-house capabilities  
5. Technological and business uncertainty  
6. Insufficient coordination and communication with supplier |

Table 3.3: The financial risk factors

1. Escalation of costs of services may be due to the supplier’s opportunistic behavior. The supplier may be tempted to overcharge for the activities performed in order to obtain a higher profit from the relationship. This opportunistic behavior is still more likely, and its impacts more important, if the client lacks experience and expertise with the management of outsourcing contracts, which is another risk factor itself.
2. Inexperience of the client with the outsourced activity may have a negative impact on the ability of the client to adequately manage the contract, since the client will have difficulties in assessing the quality and the costs of the provided IT services. Any client will have to incur costs to supervise and monitor the supplier, but the client might have a difficult time doing so because they lack information about the supplier’s activities. Acquiring this information is costly. Moreover, an inexperienced client might well underestimate the transition and management costs.

3. Incomplete contracting forms another risk factor. Outsourcing contracts must be crafted for flexibility in order to withstand the inevitable changes of the business conditions and the fast evolving technological environment. All contracts are based on key assumptions regarding technologies, but these assumptions will change. How detailed the contract may be, most contracts just can not anticipate the changes of the future needs and as a result, several clients have seen their suppliers charge them high fees for new services or changes in the services required. Another important element contributing to disagreement is the fact that almost every contract suffers from unclear, multi-interpretable or incomplete definitions about the scope of the services, the responsibilities of both parties and other important aspects. In defining the process description, the client needs to describe the boundaries so that each party will know where its responsibilities end. Also the way both parties handle problem escalation and conflict resolution has to be described. Otherwise disagreements or misunderstandings will arise if, for example, new services have to be added later in the ongoing relationship. An aspect related to this, is about the service level specifications and the metrics, used to measure the supplier’s performance. They must be clearly defined and effectively designed, as they allow the client a comfort level when they turn over the control of the IT to the supplier. It indicates whether the client is receiving the results they pay for. Several mistakes can be made including: (a) not measuring multiple attributes of a desired result, (b) measuring the wrong things, (c) not including penalties for missed service levels and (d) not measuring what is truly important. As the client manages outsourcing relationships primarily through service level specifications, friction will result when the client tries to manage the relationship with specifications that are not carefully designed (Bendor-Samuel, 2002; Beulen and Ribbers, 2003).

4. Failure to build and retain requisite in-house capabilities is also a common bad practice. This is because there is either over-reliance on the pre-existing standards and measurement systems, or there is underestimation and the failure to define comprehensively in the initial contract the detailed expectations about the standards and the measurements. Most of the time the reason for these flaws were time pressures and too much trust in the IT supplier, not seldom caused by supplier opportunism (Kern and Willcocks, 2001). Insufficient or ineffective monitoring and lack of technical knowledge for example, hinder the client to keep organizational as well as intellectual control over the IT supplier and to benefit from outsourcing in the best possible way, which might result in cost escalation.
5. The technical and business uncertainty of the outsourced activity is also a risk factor. When requirements, quality criteria, service levels and so on are not well defined, the client is likely to ask for adjustments. Contracts have to be reopened and modified and often bring about costs.

6. The final risk factor contributing to cost escalation is insufficient coordination and communication with supplier. This might result in the duplication of systems or people, which is not only inefficient but also very expensive.

3.3.2 Business risks and risk factors
Here the business risks will be described and then the business risk factors associated with IT outsourcing (Earl 1996; Aubert et al., 1998a/b; Willcocks et al., 1999; Lacity and Willcocks, 2000a; Kern and Willcocks, 2001).

**Business risks**
The client may lose important capabilities when no or too few IT skills and expertise remain in the retained organization. The client may lose its flexibility when it becomes completely dependent on the external supplier, but it might also lose its innovative capacity and its ability to use IT efficiently and effectively. Often, the interactions among IT staff in different functional activities develop expected or unexpected new insights or solutions and, when outsourced, these interactions might be less likely. This affects the client’s ability to maintain its competitive advantage and to use IT in an innovative way.

Related to this is the fact that IT operations and development have always been inherently uncertain. Users are not sure of their needs, new technology is risky, business requirements change and implementation is full of unexpected scenarios. If an organization decides to outsource IT services, it is assuming that its future direction and needs are clear. When those needs change for some reason, for example when an outsourced non-core service unexpectedly becomes a core service, the client may have lost crucial competencies and capabilities to anticipate those changes.

**Business risk factors**
The main business risk of IT outsourcing is the loss of internal competencies. We will now describe the different risk factors contributing to that specific risk (see table 3.4 below).

<table>
<thead>
<tr>
<th>Business risk</th>
<th>Business risk factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of internal competencies</td>
<td>1. Failure to retain and build requisite in-house capabilities</td>
</tr>
<tr>
<td></td>
<td>2. IT skills shortage of the supplier (opportunism)</td>
</tr>
<tr>
<td></td>
<td>3. Technological and business uncertainty</td>
</tr>
<tr>
<td></td>
<td>4. Proximity of the core competencies</td>
</tr>
</tbody>
</table>

Table 3.4: The business risk factors

1. The failure to retain and build requisite in-house capabilities is the main risk factor responsible for the loss of internal competencies. It implies that the client either did not retain
enough activities in-house, or that it did not add (or build) sufficient new IT and business capabilities as a replacement for those being outsourced.

2. When the client assumes that the supplier takes the responsibility for certain IT services, while in fact the supplier does not (because the contract does not cover those services, because the supplier was too opportunistic and does not have the necessary skills to provide those specific services or for some other reason), the client will have to find an acceptable solution to acquire those important competencies one way or another.

3. Technological and business uncertainty is another risk factor. Because of rapid technological developments and because technology and business requirements and needs change over time, it might be possible that certain outsourced competencies increase in importance. It takes a lot of time and money to retain those old competencies again.

4. Learning about an activity and acquiring specific expertise about it, often comes with the conduct of that activity. When the activity is outsourced, the organization is likely to lose some of its expertise. If the activity is not close to the core competencies of the organization, the consequences are not necessarily dramatic. However, if it is close to the organization’s core competencies, outsourcing may even reduce the organization’s ability to do business.

3.3.3 Technical risks and risk factors
Here the technical risks will be described and then the technical risk factors associated with IT outsourcing (Earl 1996; Aubert et al., 1998a/b; Willcocks et al., 1999; Lacity and Willcocks, 2000a; Kern and Willcocks, 2001).

Technical risks
Dissatisfaction with the delivered services, which do not meet the predefined requirements, is a technical risk. The literature provides numerous examples of degrading service levels resulting from outsourcing: poor response time, poor turnaround time, late updates of software, applications that do not meet the requirements, and so on. According to Peppard and Ward (1999), there is general agreement that there are four dimensions to service quality in relation to the provision of IT services, namely:
(1) Reliability, the ability of the IT supplier to perform the promised service reliably and accurately;
(2) Responsiveness, the willingness of the IT supplier to help customers and provide prompt service;
(3) Assurance, the knowledge and competence of IT specialists and their ability to inspire trust and confidence;
(4) Empathy, the caring, courtesy and individualized attention the IT supplier gives to the customer.
**Technical risk factors**
The main technical risk of IT outsourcing is the degradation of the delivered services, which do not meet the predefined requirements. We will now describe the different risk factors contributing to that specific risk (see table 3.5 below).

<table>
<thead>
<tr>
<th>Technical risk</th>
<th>Technical risk factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degradation of delivered services</td>
<td>1. IT skills shortage of the supplier (opportunism)</td>
</tr>
<tr>
<td></td>
<td>2. Failure to retain and build requisite in-house capabilities</td>
</tr>
<tr>
<td></td>
<td>3. Lack of active management of the supplier on the contract and relationship dimension</td>
</tr>
<tr>
<td></td>
<td>4. Insufficient coordination and communication with supplier</td>
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<td>5. Unrealistic expectations with multiple objectives for outsourcing</td>
</tr>
<tr>
<td></td>
<td>6. Interdependence of activities</td>
</tr>
</tbody>
</table>

*Table 3.5: The technical risk factors*

1. It may happen that a supplier does not have the necessary skills to provide the predefined service requirements. This can be due to the earlier mentioned supplier opportunism, when a supplier, eager to obtain a contract, exaggerates the expertise it possesses with certain activities. But there are also other reasons. When organizations decide to outsource their legacy systems for example, suppliers hire and retain IT personnel who are familiar with older technology. When the client needs support with new technology, the supplier might not have the required skills available. Related to this is the possibility that the supplier uses obsolete technology in order to achieve economies of scale and does not want to invest in new expensive technologies.

2. Failure to retain and build requisite in-house capabilities is another risk factor contributing to the risk of degradation of delivered services. Insufficient and/or ineffective monitoring or lack of management for example may both result in poor service quality.

3. Also possible is that the degradation of the delivered services is caused by a lack of active management of the supplier on the contract and relationship dimension. This is also a risk factor.

4. Insufficient coordination and communication with supplier might result in poor strategic planning of IT, lack of understanding and disalignment of the client and supplier's objectives. In the outsourcing relationship, the objectives of each party are, as we already mentioned, different and the factors that determine the commercial merit of the partnership are, thus, being considered from different perspectives. The supplier will be tempted to devote their attention, time and energies into winning new contracts rather than servicing existing ones. Management styles and degrees of bureaucracy within organizations may also be different. Consideration of these factors is essential to ensure the viability of the collaborative venture and the (future) success of the relationship.
5. Unrealistic expectations of IT outsourcing is another risk factor. The client does not only want the best services, but also the lowest price and the highest flexibility. This is just not possible and the client might well concentrate on one main objective for IT outsourcing.

6. Interdependence between an outsourced activity and activities that remain inside the organization is also critical. When an activity is outsourced, it is expected that the fact that it is performed outside the organization’s boundaries will not have negative consequences on those activities that remain inside the organization. Once the activity is outsourced though, the company may realize that there were indeed dependencies between activities and that the conduct of the company’s business is perturbed.

Appendix I gives an overview of both the risks and the objectives of IT outsourcing. In the next section we will describe the importance of the retained organization in diminishing the described risks and meeting the predefined objectives of IT outsourcing.

3.4 The importance of the retained organization

Now we identified the risks and the related risk factors of IT outsourcing, we are able to determine the role of the retained organization in mitigating those risks and risk factors. The retained organization is also referred to as the demand organization, the residual IT organization or the remaining IT function, but we will continue to call it the retained organization.

The main goal of the retained organization is to mitigate risks, to achieve productive and efficient operations and to leverage the elusive “value added” anticipated from outsourcing in order to meet the overall objectives of the company (Kern and Willcocks, 2001). The fact that the main focus of the retained IT organization is on risks, can be explained by the changed role of the IT organization. Before IT outsourcing, the main goal of the IT organization was to deliver the required IT services. But after IT outsourcing, all IT resources and services have become the responsibility of the supplier. This is confirmed by Willcocks et al. (1999), who describe that the retention of in-house capabilities provides the ‘primary means by which developing risk can be identified and assessed, but also by Kern and Willcocks (2001), who emphasize that the retention of in-house capabilities is the ‘primary source for mitigating risks’.

In the former section we mentioned the three main risks (or undesirable outcomes) related to IT outsourcing, which can be summarized as:

1. Escalation of costs, due to unexpected, underestimated or hidden costs (financial risk);
2. Loss of important internal competencies (business risk);
3. Degradation of the delivered services, which do not meet the predefined requirements (technical risk).

These risks are related to certain risk factors, which, when present, increase the probability of those risks. So by decreasing the probability of those risk factors, the risks will also
The risk factors we mentioned in the previous section originate from three different sources:

1. **Risk factors due to the client organization**, distinguishing:
   - Risk factors due to the phase before the outsourcing contract was signed which include (a) incomplete contracting and (b) unrealistic expectations (with multiple objectives for outsourcing).
   - Risk factors due to the phase after the outsourcing contract was signed which include (a) inexperience with IT outsourcing, (b) failure to build and retain requisite in-house capabilities, (c) insufficient coordination and communication with supplier and (d) unrealistic expectations (with multiple objectives for outsourcing).

2. **Risk factors due to the supplier organization** which include (a) opportunism of the supplier, (b) IT skills shortage of the supplier and (c) lack of active management of the supplier on the contract and relationship dimension.

3. **Risk factors due to external or situational factors** which include (a) technological and business uncertainty, (b) proximity of the core competencies and (c) interdependence of activities.

Most of the above risk factors are, directly or indirectly, related to an insufficient staffed and/or skilled retained organization. As we will see, four necessary elements of the retained IT organization can be distinguished, which are of vital importance to mitigate the earlier described risks and risk factors (Kern and Willcocks, 2001). These are:

1. Providing knowledge and expertise;
2. Monitoring the supplier;
3. Managing the relationship;
4. Maintaining the power balance by creating incentives.

We will now describe the importance of the four elements in diminishing the identified IT outsourcing risks and risk factors.

**1. Providing knowledge and expertise**

First of all, the retained IT organization has to provide the necessary knowledge and expertise, not only to ensure qualitatively good service(s) at acceptable costs, but also to stay flexible in the face of unexpected technological and business change. This not only includes technical, business and supplier (market) knowledge, but also negotiating, legal and strategic expertise with regard to IT outsourcing.

The failure to build and retain requisite in-house capabilities can be resolved by retaining the qualitatively best personnel, to be sure that the most valuable knowledge and value-adding expertise is secured for the client IT organization.
Oppportunism of the supplier does not get a chance when enough knowledge, expertise and experience is available within the client organization, because a well informed client is able to make decisions independent of the supplier. If the supplier chooses to change the way it provides the service (because of technological or business reasons), with a different platform, location, or modus operandi, the client has to learn about the new mechanisms in a domain that it thought it could ignore.

The risk factors ‘inexperience with IT outsourcing’ and ‘unrealistic expectations with multiple objectives for outsourcing’ vanish when experienced, well-informed people are retained.

Knowledge and expertise are necessary to keep organizational as well as intellectual control over the supplier, but also to stay flexible in the face of unexpected but inevitable technical and business change.

2. Monitoring the supplier
The second necessary element within the retained organization is to monitor the performance of the supplier well to ensure that the outputs and outcomes are in accordance with the contract. Subject of this monitoring are all kinds of predefined financial, contractual and service level measurements. This is necessary to avoid the escalation of costs and to be sure that the services meet the predefined requirements. The client may use the information to penalize the supplier if for under-performance, but also to manage it more successfully. The risk factor ‘insufficient monitoring’ won’t get a chance when enough monitoring services are available within the client organization.

3. Managing the relationship
The third aspect of the retained organization is managing the relationship, communicating and coordinating with both the external supplier and the internal business and IT staff in order to clarify both party’s objectives and to leverage the relationship for business and mutual advantage. Insufficient coordination and communication with supplier, which is a frequently mentioned risk factor, can be reduced when enough attention is paid to this specific issue. Unrealistic expectations with multiple objectives for outsourcing can be avoided by managing those expectations. The client explains to the supplier what its business and future strategy is and how to work effectively within its environment.

4. Maintaining the power balance by creating incentives
Finally, the fourth element consists of incentives to make sure that a certain power balance between the client and the supplier will be maintained. Suppliers can be rewarded for initiatives that contribute to business success or cost savings, but they can be penalized when the services do not meet the predefined contractual obligations. A well-staffed and skilled retained IT organization is also an incentive for the supplier, as it shows the client’s independency. The fact that the client can quite easily change from supplier results in a more active and cooperative supplier. The risk factor ‘lack of active management of the supplier’
will be far less likely. The supplier is well aware that maintaining a client is less time and money consuming than attracting a new one.

The figure below (figure 3.4) gives a schematic overview of the four identified elements of the retained organization, necessary to diminish the identified IT outsourcing risks and risk factors.

![Figure 3.4: The four main elements of the retained IT organization in
mitigating the IT outsourcing risks and related risk factors](image)

As figure 3.4 shows, these four elements are mutually related to each other. Knowledge is not only necessary to manage the relationship successfully and to monitor the supplier effectively, but also to maintain the power balance between both parties. Managing the supplier is only possible when the client knows what has to be managed. This information becomes available when the supplier is appropriately monitored. To interpret the monitored information and to make choices regarding that information, enough knowledge is also a requirement for successful management. Moreover, to be sure that the supplier is willing to be managed, certain incentives have to be in place. These incentives include the client’s availability of internal expertise of all the technical, business and financial aspects, but also about the supplier, by monitoring its performance.

As we can see, the retained IT organization is a coherent functioning whole of interrelated and interacting activities and every change may dramatically decrease its efficiency and effectiveness.

### 3.5 Summary

IT outsourcing risks can broadly be categorized into three groups, namely:
1. Escalation of costs, due to unexpected, underestimated or hidden costs (financial risk);
2. Loss of internal competencies (business risk);
3. Degradation of the delivered services, which do not meet the predefined requirements (technical risk).

The retained IT organization is the primary source to mitigate these risks and their related risk factors by ensuring that these four elements are covered:
1. Providing knowledge and expertise to keep organizational as well as intellectual control over the supplier and to stay flexible in the face of unexpected but inevitable technical and business change.
2. Monitoring the supplier to avoid the escalation of costs and to be sure that the services meet the predefined requirements.
3. Managing the relationship, communicating and coordinating with both the external supplier and the internal business and IT staff in order to clarify both parties’ objectives and to leverage the relationship for business and mutual advantage.
4. Maintaining the power balance between the client and the supplier by using incentives. These four elements are interdependent, implying that the retained IT organization is a coherent functioning whole of interrelated and interacting activities.
4 A Framework of Retained IT Core Capabilities

The focus of this chapter is on the capabilities and processes, which have to be maintained within the retained IT organization. The first section describes two perspectives that shape the boundaries of the retained organization. Section 2 presents a theoretical framework of nine IT core capabilities necessary to address the IT function. We will verify the correctness of this framework in the next two sections by comparing it with information extracted from an existing process model and from several interviews we conducted with five organizations. The third section introduces an existing process model and links the theoretical IT capabilities to well-known processes. Section 4 gives an overview of the IT capabilities mentioned in the interviews. The fifth section integrates all the information of the former sections and presents our new framework of capabilities that should most likely be retained.

4.1 The two perspectives shaping the boundaries of the retained organization

In order to understand which capabilities should be retained within the IT organization, it is important to understand which perspectives shape the boundaries of the retained IT organization. To show this, we will present Looijen’s framework. According to Looijen (2001) organizations address the challenges of IT exploitation through three dimensions (functional management, application management and technical management), which also have been split into three dimensions (strategic, tactical and operational). These dimensions are described below.

1. **Functional management** is responsible for the maintenance of the functionalities of the entire IT function. Functional management defines the IT organization structure and its management processes and supports the use of its functionalities, evaluates it and responds to imperfections and new requirements.

2. **Application management** is responsible for the maintenance of the applications. It selects and develops applications and group wide systems, which will create value for the business.

3. **Technical management** is responsible for the maintenance of the IT infrastructure. It is concerned with all the operational aspects of the technology architecture and standards on which the systems are mounted, designed, built and operated.

Each of these three management areas represents a spectrum from strategic, to tactical to operational level:

- **The strategic level.** This is where the strategic management, which is policy determining, is located. It consists of directives regarding the content of either functional, application or technical management, the place or places where it is to be
found in the organization and about the relationship which has to be maintained with the business units and the IT supplier, depending on the respective management area.

- **The tactical level.** This is where the tactical management is located. It is concerned with the translation of the policy and as such it is responsible for technical and personal resources at the operational level with regard to functional, application or technical management, depending on the respective management area.

- **The operational level.** The operational management is responsible for the direct support of IT functionality, applications or IT exploitation, depending on the respective management area.

In figure 4.1, all the dimensions have been integrated. Organizations address their IT function in different ways and two fundamentally different perspectives can be distinguished, as shown in the figure below (Lacity and Willcocks, 2001).

![Figure 4.1: The two perspectives on outsourcing IT (based on Lacity and Willcocks, 2001)](chart.jpg)

The first perspective belongs to those organizations, which consider IT as a strategic resource and also positioned it that way. They tend to regard IT as core and will keep almost all IT activities in-house. Over time, those organizations will focus more and more on capabilities related to creating business value and will start to redefine their definition of core capabilities. This implies that they will start using more IT suppliers and that the non-core activities in the lower-right corner will be expanded.

The second perspective is related to those organizations, which are committed to IT outsourcing and mainly concentrated on how to manage the IT suppliers. They tend to have outsourced almost all activities and start from the assumption that core capabilities are only focused on the requirement to develop strategy. By experience they are learning that more capabilities are necessary to sustain success in IT exploitation in the longer run. They will gradually expand their core capabilities in the upper-left corner.
These two perspectives encompass the retained IT organization and form the basis for determining the capabilities within it (Feeny and Willcocks, 1997; Feeny and Willcocks, 1998; Lacity and Willcocks, 2001). Figure 4.2 represents this graphically.

Figure 4.2: The perspectives determining the in-house IT capabilities

The first perspective refers to the capability to retain one’s core competencies. For any organization, it simply is not possible to remain competitive, let alone world-class, if it dissipates managers' attention across many diverse activities and markets when each is subject to potential transformation. This implies that an organization can only be effective at a limited number of core activities and should concentrate on developing those to world-class. Anything else can be eliminated, minimized or outsourced. The important question in this context is whether the whole, or parts of the IT function are perceived as core, now and in the future. This perspective refers to those capabilities which are available within the IT organization and which should not be outsourced.

The second perspective refers to the retainment of competencies to control the IT supplier. This involves those IT activities that should be added to the retained organization in order to manage and monitor the supplier effectively. This perspective refers to those capabilities which were not or less available in the IT organization and should be added, changed or improved.

Feeny and Willcocks (1998) integrated these two perspectives and came up with a framework with all the necessary IT capabilities that are core to the business's future capacity exploit IT successfully (referring to perspective 1 and 2 respectively). The framework’s focus is on the recurring, fundamental issues organizations face and the IT core capabilities are only those that a firm must possess to respond to these recurring issues over time, whatever the contemporary specifics of business circumstance or IT products are. In the next section we present the theoretical framework of IT core capabilities necessary to address the IT function.

4.2 The retained IT core capabilities: a theoretical framework

This section presents a theoretical framework of IT core capabilities, described by Feeny and Willcocks (1998). First, we will pay attention to four areas, which have to be covered by the retained organization. We will justify their necessity by referring to research literature. Then the retained IT capabilities addressing those four areas are presented.

4.2.1 The areas covered by the retained IT organization

There are four main areas in the exploitation of IT that a company must successfully address over time, (1) the IT governance area, (2) the technical area, (3) the business area and (4) the supply area. We will clarify the importance of those four areas by referring to Rockart et al.
(1996), who define eight so called imperatives for IT management to respond to a fast changing technological and business environment and to Ross et al. (1996), who identify three assets which they consider to be the most important ones in becoming and staying competitive (see table 4.1).

<table>
<thead>
<tr>
<th>The eight imperatives for IT (Rockart et al., 1996)</th>
<th>The three strategic IT assets (Ross et al., 1996)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Achieving two-way strategic alignment.</td>
<td>1. The human asset: an IT staff that consistently solves business problems and addresses business opportunities through information technology.</td>
</tr>
<tr>
<td>2. Developing effective relationships with line management.</td>
<td>2. The technology asset: sharable technical platforms and databases is essential to integrating systems and making IT applications cost effective.</td>
</tr>
<tr>
<td>3. Delivering and implementing new systems.</td>
<td>3. The relationship asset implies the risk and responsibility for effectively applying IT that business and IT must share.</td>
</tr>
<tr>
<td>5. Reskilling the IT organization.</td>
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<tr>
<td>8. Redesigning and managing the federal IT organization.</td>
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Table 4.1: Rockart’s eight IT imperatives and Ross’s three IT assets

We will now return to the four areas, or “faces” as Feeny and Willcocks (1998) call it, of the retained IT organization.

1. **The IT governance area**

   The IT governance area is concerned with the already mentioned functional management dimension, where the governance and the functionality of the IT are defined. Here the role of IT within the business is defined, combined with the responsibilities of the IT staff and the business staff in achieving that role. It is involves with the value and role of IT within the business, but also with the people and processes involved in achieving the chosen IT strategy to support the business. Furthermore, it is responsible for the processes that will be used to evaluate any proposals for IT investment or services and the purpose and scope of any standards, which should apply, to the IT activities (Lacity and Willcocks, 2001).

   Both the fifth and seventh imperative of Rockart et al. (1996) and the human asset of Ross et al. (1996) are about the importance of motivated and well-skilled people, which is also the responsibility of this governance area. In the next sub-section we will deal with this subject more extensively.

   The governance area has the primary responsibility to ensure that the supplier meets the its objective, namely to delivery and implementation of new systems, which is the third imperative of Rockart et al. (1996). This includes systems development, for those core IT activities that offer competitive advantage and which should not be outsourced. But it also involves procurement and integration for the IT activities, which are non-core and are outsourced. An informed buying capability is therefore required.

2. **The technical area**

   The technical area is related to both the technical and application management dimension and is concerned with ensuring that the business has access to the technical capability it needs in order to manage the IT supplier appropriately. A major important issue is the design of IT architecture and the choices of the technical platforms on which to mount the IT services.
Rockart et al. (1996) mention as their *fourth imperative*, the development of an architecture that defines the planned "shape" of the infrastructure itself and the establishment of technology standards for implementing the architecture in order to create an IT infrastructure that is integrated and interconnected in such a way that information of all types can be easily routed through the network and redesigned processes.

This is in agreement with Ross et al. (1996) who argue that a strong *technology asset* is essential for integrating systems and making IT applications cost-effective in their operation and support. The IT architecture needs to remain open to the changing demands of the business environment. There may be profound change required in what Keen has called the "reach" and "range" of the platform, with a wide selection of IT services being provided to users beyond the historic confines of the business.

### 3. The business area

The challenge of the business area is to elicitate and deliver business requirements in order to address the need for two-way strategic alignment between business and technology, as Rockart et al. (1996) call it in their *first imperative*. This refers to the functional, but also to the application management dimension, where the main focus is on creating business advantage with information technology by defining the information systems to be provided and analyzing their relationship with business needs. IT has become a relevant resource for management in carrying out its strategic initiatives. To ensure that investments in IT are targeted at strategic priorities, the IT management must be well informed about senior management's strategic and tactical thinking. IT people must be present where business strategies are debated. Alignment, however, is two-way. It is becoming clear as firms consider their future in an information era that IT executives should contribute more positively to management thinking by identifying the business threats and opportunities posed by IT.

Ross et al. (1996) confirm this by mentioning that a strong *relationship asset* is characterized by IT and business unit management sharing the risk and responsibility for the effective application of IT in the firm. Shared risk and responsibility require trust and mutual respect between IT and clients, and an ability to communicate, coordinate or negotiate quickly and effectively. IT developments can enable new or superior business strategies by using IT, for example mass customization and the internet allowing new opportunities for distribution, product offerings, and brand exploitation. Although business and IT vision requires insightful assessments of the often countless claims about what technology can do and how to use it, it is evident that technology is important and that it influences business strategy as well as the other way around (see figure 4.3).

![Figure 4.3: Strategic alignment (Rockart et al., 1996)](image-url)
4. The supply area

The supply area is about managing the supplier in order to assure the required delivery of IT services, or as Rockart et al. (1996) call their sixth imperative: ‘managing partner vendorships’. We can call this outsourcing management. As we already argued, effective management of the IT supplier is the key factor in realizing the potential benefits of outsourcing. This means that enough knowledge should be retained and that sufficient staff is available to manage and monitor the supplier. But the challenge is also more complex than this, involving the assessment and potential adoption of new IT management prescriptions and fundamentally different development methods. As both Rockart et al. and Ross et al. note, there are unprecedented pressures on the IS function to develop new systems faster and to achieve higher performance in the operation of existing services. Figure 4.4 gives a schematic overview of the four described areas.

What the four areas have in common is the need to continually reassess and reinterpret the necessary requirements within a turbulent environment. We already mentioned in chapter 2 that IT penetrates to the core of operations, so its reliability, the speed at which IT services can be delivered and the understanding of new technologies and their potential usefulness, become business critical.

Companies must retain the capacity to regularly adjust their positioning in each area and sometimes radically change their chosen business strategies, IT platforms, or arrangements for delivering IT services. A business that cannot update and alter its decisions in these areas will soon be handicapped, strategically as well as economically.
The theory of both Rockart et al. (1996) and Ross et al. (1996) has been incorporated within the four areas we discussed, except for the *eight imperative*. The eight imperative is about the structure and will be discussed in chapter 6.

In the next sub-section the IT core capabilities, necessary to address these four areas, will be presented. We will verify the correctness of these core capabilities in the next sections.

### 4.2.2 A theoretical framework: the nine IT core capabilities

Feeny and Willcocks (1998) found nine capabilities that enable a business to consistently address the described four areas in order to exploit IT successfully, now and in the future. We will describe those nine capabilities.

1. **Leadership**

   *Integrating IT effort with business purpose and activity.*

   Effective IT leadership is about the division of the organizational arrangements, the structures, the processes and the staffing, in order to address each area and to manage their interdependencies. Leaders set goals and directions in each of the four mentioned areas and also influence the overall business perception of IT's role and contribution by establishing strong business/IT relationships at the executive level, and leveraging those relationships to achieve a shared vision for IT. At the same time leaders determine the values and culture of the retained IT organization and instill the belief that an IS staff’s first duty is to contribute to achieving business solutions.

2. **Business systems thinking**

   *Envisioning the business process that technology makes possible.*

   Business systems thinking is concerned with integrating business development with IT capability. Experts in business systems thinking understand interdependencies and connections in business activity. They build and communicate holistic views of current organization and activity as a basis for envisioning potential new patterns. This avoids that aging and inefficient processes are supported or added to new processes that were designed without considering current IT capability.

3. **Relationship building**

   *Getting the business constructively engaged in IT issues.*

   Relationship building facilitates the wider dialogue between business and IT communities, which specifically involves developing users' understanding of IT's potential, helping users and IT specialists work together and ensuring users' ownership and satisfaction. Although Feeny et.al. (1996) emphasize that there are always difficulties in the communication between IT specialist and users, the most important contribution of
relationship building is the creation of mutual confidence, harmony of purpose, and successful communication among those focused on the business and technical agendas.

4. Architecture planning

*Creating the coherent blueprint for a technical platform that responds to current and future business needs.*

Through insight into technology, suppliers and business directions, architecture planners develop the vision of an appropriate technical platform. They also formulate associated policies that ensure necessary integration and flexibility in IS services, the basis for shared IT services across the firm. Without such planning, the organization tends to end up with independent systems (islands of automation) that might result in duplication, or gaps between systems. The consequence is that the organization is unable to present a consistent business interface to its users and that one part of the organization is not aware of what the other parts are doing.

5. Making Technology Work

*Rapidly achieving technical progress, by one means or another.*

As an intermediary between IT architecture design and the delivery of IS services is the core capability of making technology work, which requires much of the insight of an architecture planner, with a pragmatic, short-term orientation. In an environment of complex, networked, multisupplier systems, technical "fixers" make two critical contributions: they rapidly fix problems that are disowned by others across the technical supply chain and they identify how to address business needs that cannot be properly satisfied by standard technical approaches.

6. Informed Buying

*Managing the IT sourcing strategy that meets the interests of the business.*

The informed buying capability overlaps the technical, the business and the supply areas and involves analysis of the external market for IS/IT services, selection of a sourcing strategy to meet business needs and technology issues, leading the tendering, contracting, and service management processes. This is also about placing contracts and negotiating deals effectively, including revisions and additions to the original contract. Sometimes this capability is incorporated within a procurement office.

7. Contract Facilitation

*Ensuring the success of existing contracts for IT services.*

As arrangements for delivery of IT services are complex, users within the business receive various services from multiple supply points (external and internal) in detailed, lengthy
service agreements. Contract facilitation provides a single point of contact through which the user can ensure that problems and conflicts are resolved fairly and promptly, within a framework of agreements and relationships. It involves also facilitating people relationships, devising processes for conflict resolutions and interpreting business and technical issues within established contract framework.

8. Contract Monitoring

*Protecting the business's contractual position, current and future.*

Contract management is the most obvious ongoing requirement. While contract facilitation is about handling the every day problems, the contract monitoring capability ensures that the business position is protected at all times. Effective contract monitoring means holding suppliers to account on both existing service contracts and the developing performance standards of the services market. This includes developing service level measures and service level reports, specifying escalation procedures and cash penalties for non-performance and determining growth rates (Kern and Willcocks, 2001).

Two views are possible. The first one is to evaluate in detail how the supplier is performing and a significant number of people is needed to monitor service performance. This tight monitoring is associated with high costs, as there are a lot of people checking all aspects of the service provision at regular stages in the process. Because any problems or irregularities are picked up very quickly and can be rectified in an early stage before any damage is done, the risks are relatively low. Loose monitoring on the other hand is associated with less people and therefore less costs, but with higher risks. When things go wrong, it will likely be discovered when the damage is already done. This is shown in the figure 4.5.

![Figure 4.5: The degree of monitoring the supplier and the relation between costs and risks.](image)
9. Vendor Development

*Identifying the potential added value of IT service suppliers.*

This capability has to ensure that added value is created by IT outsourcing. It is in the client's interest to maximize the contribution of the IT supplier and also to ensure that the earlier agreed advantages are provided. But the client itself can also look for improvements and actively collaborate with the supplier to analyze technical, business and financial benefits. It involves cost saving opportunities, but also opportunities that contribute to business value.

The nine core capabilities according to Feeny and Willcocks (1997, 1998) are presented in figure 4.6. As we can see the nine capabilities populate seven spaces. The business space contains business systems thinking, the technical space consists of architecture planning and the supply space is filled with contract monitoring and vendor development. The governance space forms the middle and is covered by two capabilities, leadership and informed buying. The remaining three spaces represent the interfaces for the business, technical and supply area and are crucial for facilitating the integration of effort across these three areas.

![Diagram showing the nine core capabilities within the retained IT organization](Image)

*Figure 4.6: The nine core capabilities within the retained IT organization (Feeny and Willcocks, 1997; Feeny and Willcocks, 1998)*

In the next section we will verify the validity of this framework by using a process model (integrated IPW™). By means of this model we are able to determine whether well known existing processes support the nine IT core capabilities.
4.3 The alignment of the core capabilities with the IPW\textsuperscript{TM} model

In order to translate the nine capabilities to recognizable processes, we will map them to processes of a well-known existing method, in our case the integrated Implementation of Process-Oriented Workflow or IPW\textsuperscript{TM} model. This gives us the opportunity to verify the validity of the theoretical core capabilities, by comparing those capabilities with existing processes. The integrated IPW\textsuperscript{TM} model is very suitable for several reasons.

First, it integrates five well-known existing methods/models, namely (1) ITIL, (2) ASL, (3) Prince2, (4) ISPL and (5) CMM, which makes it more complete than any of the other individual methods and models. In chapter 5 (section 5.2; figure 5.1), this is further discussed.

Second, the integrated IPW\textsuperscript{TM} model makes a clear distinction between the business domain, the ICT domain and the supplier domain, also identifying the processes within the IT organization to align those three domains. The next sub section will further discuss this issue.

Third, the alignment of the capabilities with processes is very useful in this case, as processes, in comparison with capabilities, more clearly specify the retained activities, giving a distinct picture of how to link certain activities to a specific individual role. Fourth, the processes of the IPW model are better known than the capabilities described by Feeny and Willcocks (1998).

4.3.1 Introduction to the integrated IPW\textsuperscript{TM} model

The integrated IPW\textsuperscript{TM} model (Bom et al., 2001) consists of three main domains, (1) the business domain, (2) the ICT domain and (3) the supplier domain. The two other domains, the BITA (Business ICT Alignment) domain and the SITA (Supplier ICT Alignment) domain, form the interfaces between the main domains. As figure 4.7 shows, the BITA domain, the ICT domain and the SITA domain are fully taken into account, while the business domain will only be partly taken into account, because that domain delivers the business strategy and business planning, which are both of importance for the ICT domain. The supplier domain is not taken into account.

![Figure 4.7: Miniature version of the integrated IPW\textsuperscript{TM} model and its five domains (based on Bom et al., 2001)](image)

The **business domain** is the foundation of the organization and therefore its most important part. It is concerned with all the fundamental questions about the strategy and direction of the business. It provides **business strategy** and **business planning**, although these are not defined as processes.
The **BITA domain** is the interface between the business domain and the ICT domain. This is necessary to translate the business strategy and all its requirements into ICT functionality. The BITA domain distinguishes six different processes. Information management and ICT valuing comprise the strategic level and are concerned with aligning the business strategy to the ICT strategy. The tactical level consists of functional management and demand management and is responsible for defining the functional requirements of the IT services and securing its delivery. The operational management processes, business support and application management are concerned with building up knowledge about the business applications.

The **ICT domain** is where all the IT processes within an organization are located. It consists of five groups, strategy at the strategic level, relationship management, service development and service planning at the tactical level and service operations at the operational level.

- **Strategy (commercial policy, human resource management, architecture, finance)**: the purpose of the processes within the strategy group is to develop the strategy and define the policy for all other ICT processes.
- **Relationship management (service level management)**: the relationship management group is the link between the business domain and the ICT domain and between the ICT domain and the supplier domain.
- **Service development (service build & test, service design)**: the processes within the service development group are suited to specify and realize IT functionality in order to improve a service or to develop a new one.
- **Service planning (security, financial, continuity, availability and capacity management)**: the service planning processes supply the necessary resources to deliver new or changed services and guaranty the required availability and performance of the services.
- **Service operations (incident, problem, change, configuration, operations and release management, service desk)**: the operations management processes are focused on operations management where all the operational activities take place.

The **SITA domain** is the interface between the ICT domain and the supplier domain. The SITA domain distinguishes six different processes. The strategic level consists of strategic sourcing and supplier portfolio management, which are concerned with the decision to outsource and the choice of the supplier. The tactical level consists of supply management and contract management and is concerned with matching demand and supply, but also for managing the outsourcing contract. The operational management processes, purchase management and operations support make sure that the required services are delivered.

The **supplier domain** is the supplier to which IT services have been outsourced by the client organization. This domain will not be taken into account.

Appendix II gives a complete overview of the integrated IPW™ model.
4.3.2 The nine IT core capabilities and their corresponding IPW processes

The nine IT core capabilities described in the former section will be mapped to their corresponding processes of the integrated IPW™ model. The nine core capabilities are: (1) leadership, (2) business systems thinking, (3) relationship building, (4) architecture planning, (5) making technology work, (6) informed buying, (7) contract facilitation, (8) contract monitoring and (9) vendor development.

**Capability 1: Leadership**

The leadership domain consists of five IPW processes, (1) information management and (2) ICT valuing, (3) human resource management, (4) strategic sourcing and (5) supplier portfolio management (see table 4.3).

<table>
<thead>
<tr>
<th>Level</th>
<th>IPW domain</th>
<th>IPW process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic</td>
<td>BITA domain</td>
<td>Information management</td>
</tr>
<tr>
<td>Strategic</td>
<td>ICT domain</td>
<td>ICT Valuing</td>
</tr>
<tr>
<td>Strategic</td>
<td>SITA domain</td>
<td>Human resource management</td>
</tr>
<tr>
<td>Strategic</td>
<td>SITA domain</td>
<td>Strategic sourcing</td>
</tr>
<tr>
<td>Strategic</td>
<td>SITA domain</td>
<td>Supplier portfolio management</td>
</tr>
</tbody>
</table>

*Table 4.3: The leadership capability and its corresponding IPW processes*

**Information management**

In this process the business strategy has to be translated to the IT strategy, resulting in an information policy, which takes into account all the potential possibilities and impossibilities of information technology. This is necessary in order to improve the competitive capacity, the efficiency and the effectiveness of the overall organization.

The business strategy, the worldly IT developments and the positioning of IT in the organization determine what IT resources the business needs to meet its objectives and how to accomplish this. This results in concrete policy about the infrastructure, applications, data, organization and project plans, in terms of architecture, standards and the information provision as a whole.

**ICT Valuing**

The positioning of the retained IT organization into the organization itself takes place in this specific process. In this way the value of the IT organization can be determined. According to the idea of the value center, proposed by Venkatraman (1999), there are four interdependent sources of value from IT resources. The IT organization can be recognized as (1) a cost center, (2) a service center, (3) an investment center and (4) a profit center (see figure 4.8).
The *cost center* reflects an operational focus that minimizes risk with a predominant focus on operational efficiency. The *service center* aims to create an IT-enabled business capability to support current strategies, while still minimizing risk. The *investment center*, on the contrary, has a longer-term focus and aims to create new IT-based business capabilities. The *profit center* is designed to deliver IT services to the external market to realize incremental revenue as well as to gain valuable experience to become a world-class IT organization. This choice highly influences the commercial policy of the organization.

When the IT organization is considered as a cost or service center, then the budget of the IT organization has to be determined. On the other hand, when the IT organization is recognized as an investment or profit center, financial targets are set. The validity of those targets is tested by means of another process, namely commercial policy, which we will discuss next.

In this process, choices are made about the role, the financial positioning, the clients, the services and the business demands for IT outsourcing.

### Human resource management

The purpose of human resource management is to keep a balance between organizational objectives and the people responsible for the realization of those objectives. It describes the processes required to make the most effective use of the people involved in the outsourcing partnership. It consists of team planning, people acquisition and team development and it is therefore also involved in investigating the staff’s personal targets, ambitions and competencies. The more is outsourced, the more critical the retained organization and thus human resource management becomes.

### Strategic sourcing

The decision to outsource or not and all the relevant choices related to this decision are made in this specific process. The first activity is to define the objective(s) of IT outsourcing, which we described earlier in chapter 2. That decision is already strongly influenced by the information management and ICT valuing process.

The second activity is to determine what services are suitable for outsourcing. What are the business requirements, what is core and what is non-core and what amount of activities should be outsourced, are questions, which have to be answered by the strategic sourcing process.

The third and final activity of this process is to make choices about the governance structure, the processes and the relationship with the supplier, by defining how both parties are going to cooperate. Monitoring to verify whether the objectives are met and to which degree, is also an interactive process.
important part of this process and the policy should be adapted when these results are not in agreement with the expectations.

**Supplier portfolio management**
The supplier portfolio management process is concerned with creating a balanced portfolio of suppliers. When most IT is outsourced to one (one supplier for both infrastructure and application outsourcing) or two suppliers (different suppliers, one for infrastructure outsourcing and one for application outsourcing), this task reduces to scanning the supplier market and the characteristics of the several suppliers. Information about the supplier (what are our/their strengths and weaknesses?, what are our/their opportunities and treats?) is valuable in order to keep control over the supplier and to determine new potential strategies.

**Capability 2: Business Systems Thinking**
The business systems thinking capability consists of two IPW processes, (1) functional management and (2) demand management (see table 4.4).

<table>
<thead>
<tr>
<th>Level</th>
<th>Domain</th>
<th>Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tactical</td>
<td>BITA domain</td>
<td>Functional management</td>
</tr>
<tr>
<td>Tactical</td>
<td>BITA domain</td>
<td>Demand management</td>
</tr>
</tbody>
</table>

*Table 4.4: The business systems thinking capability and its corresponding IPW processes*

**Functional management**
This process is responsible for defining the functional requirements with regard to information systems. It translates the policy plans created by information management to functionality and defines the standards, specifications and service levels with regard to the functionality of information systems (with the (technical) support of the architecture planning and the contract monitoring capabilities).

**Demand management**
This process has the responsibility to buy IT services either directly from the supplier (by means of a service catalog), or via the retained IT organization by using it as an interface between the business and the supplier (which is the case when the required services are not included in the service catalog). A service catalog is a portfolio of possible IT services, which can be delivered by the IT supplier and are supported by the IT outsourcing contract.

**Capability 3: Relationship Building**
Two IPW processes are relevant for the relationship building capability, namely (1) application management and (2) business support (see table 4.5).

<table>
<thead>
<tr>
<th>Level</th>
<th>Domain</th>
<th>Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational</td>
<td>BITA domain</td>
<td>Business support</td>
</tr>
<tr>
<td>Operational</td>
<td>BITA domain</td>
<td>Application management</td>
</tr>
</tbody>
</table>

*Table 4.5: The relationship building capability and its corresponding IPW processes*
**Business support**

The purpose of this process is to get an overview of the different operational problems and advantageous changes within the business processes, in order to improve them by means of information technology. When users are not satisfied with the delivered services, this process makes sure that their suggestions for improvement are registered and forwarded to functional management to where potential changes and improvements can be reviewed.

**Application management**

Building knowledge about the primary information systems is considered to be the purpose of this process. Information about the functionality, documentation, data structure, trainings and related expertise is gathered within application management. It supports other processes, such as contract monitoring and business support, when changes are required, requirements have to be defined or when questions about the different information systems have to be answered.

**Capability 4: Architecture Planning**

The architecture planning capability is composed of one strategic IPW process, namely architecture (see table 4.6).

<table>
<thead>
<tr>
<th>Level</th>
<th>IPW domain</th>
<th>IPW process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic</td>
<td>ICT domain</td>
<td>Architecture</td>
</tr>
</tbody>
</table>

*Table 4.6: The architecture planning capability and its corresponding IPW process*

**Architecture**

The objective of this process is to determine the policy about the IT architecture, consisting of four domains: (1) data (data models), (2) application (interfaces, data layers), (3) technical (platforms, networks, protocols, resilience) and (4) organization (service, processes, people). In this process, questions about standardization, security of the architecture, the necessary flexibility and the integration and coupling with other components are answered, but also about the implications for the people using the technology.

**Capability 5: Making Technology Work**

The making technology work capability is part of operations management, which is outsourced to the supplier.

<table>
<thead>
<tr>
<th>Level</th>
<th>IPW domain</th>
<th>IPW process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational</td>
<td>ICT domain</td>
<td>Operations management</td>
</tr>
</tbody>
</table>

*Table 4.7: The making technology work capability and its corresponding IPW process*

**Operations management**

Within this process all the operational activities take place, which are outsourced. Out of the interviews, but also out of case studies, it becomes apparent that the ‘making technology work’ capability is the responsibility of the supplier.
Capability 6: Informed Buying

The informed buyer capability consists of, (1) finance, (2) commercial policy, (3) supply management, and (4) contract management. The table below summarizes these processes.

<table>
<thead>
<tr>
<th>Level</th>
<th>IPW domain</th>
<th>IPW process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic</td>
<td>ICT domain</td>
<td>Finance</td>
</tr>
<tr>
<td>Strategic</td>
<td>ICT domain</td>
<td>Commercial policy</td>
</tr>
<tr>
<td>Tactical</td>
<td>SITA domain</td>
<td>Supply management</td>
</tr>
<tr>
<td>Tactical</td>
<td>SITA domain</td>
<td>Contract management</td>
</tr>
</tbody>
</table>

Table 4.8: The informed buying capability and its corresponding IPW processes

**Finance**

This process is concerned with defining the policy about the budgets and the way these budgets are spent. The business domain is responsible for determining the overall budget for IT outsourcing, while IT finance is accountable for detailed clarity about the financial targets and intentions of the IT organization. By monitoring the financial process, it has to ensure that the contract is being executed within the approved budget and when it turns out that this is not the case, the financial policy has to be changed. The determination of the value of new investments, which reside behind the boundaries of the existing IT outsourcing contract, is also part of this process.

**Commercial policy**

The purpose of this process is to define the policy concerning the delivery of the products and services to customers and the way to address those customers. Out of IT valuing process, it becomes clear what kind of commercial policy fits best in terms of delivered services and pricing policy. With regard to outsourcing, it means that is defined within what boundaries the supplier is allowed to operate. The relevance of this process depends on how much is outsourced: the more is outsourced, the less relevant it becomes.

**Supply management**

The supply management process is responsible for managing demand and supply and to match IT service and IT product needs with new suppliers. It covers the strategic and tactical level and describes which amount is necessary and all the specifications further involved. When most IT services have been outsourced, this process will transform. When IT procurement is not outsourced, this process might involve the responsibility for IT procurement of products (instead of services). When important changes have to be arranged within the outsourcing contract, this process is involved again.

**Contract management**

Contract management is responsible for clear contracting frameworks and underpinning contracts for the delivered IT services. It is also concerned with monitoring the different legal, financial and other aspects of the contract to ascertain that the contract is being administered within the boundaries that are defined within the agreement. This also includes contract exit.
The structure of most outsourcing contracts is based on a Corporate Framework Agreement (CFA), including the overall conditions and some general terms and conditions. Under this CFA there are Framework Agreements, including all services for specific organizational units or including specific services to all organizational units.

**Capability 7: Contract Facilitation**

The contract facilitation capability is the intermediary between the client and the supplier. The corresponding IPW processes are (1) service desk (for the operational help for technical and application management), (2) operations support (for the operational and tactical help of the functional management involving the contractual obligations of the supplier) and (3) purchase management. The ‘service desk’ process is, when outsourced, fulfilled by the supplier.

<table>
<thead>
<tr>
<th>Level</th>
<th>IPW domain</th>
<th>IPW process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational</td>
<td>ICT domain</td>
<td>Service desk</td>
</tr>
<tr>
<td>Operational</td>
<td>SITA domain</td>
<td>Operations support</td>
</tr>
<tr>
<td>Operational</td>
<td>SITA domain</td>
<td>Purchase management</td>
</tr>
</tbody>
</table>

*Table 4.9: The contract facilitation capability and its corresponding IPW processes*

**Service desk**

The service desk is not a process, but in an operational unit, serving as the first contact point for the users. When outsourced, this is the responsibility of the supplier.

**Operations support**

The operations support process is responsible for the operational completion of contracts and for user support when questions arise about the content of the IT outsourcing contract.

**Purchase management**

This process has to ensure that the order requests from supply management are executed according to the contractual obligations at operational and tactical level.

**Capability 8: Contract monitoring**

The contract monitoring capability consists of the service level management process, but also involves the control of the service planning processes (security, financial, continuity, availability and capacity management) and the service operations processes (incident, problem, change, configuration and release management, service desk). Although the supplier has the primary responsibility for those processes, the client has to keep control. When changes are implemented for example, the client has to be sure that those changes really took place and that the effect of those changes on the IT and business processes is as expected. These processes do not require full-time attention and can therefore be integrated (as an addition) with the service level management process. The table below, table 4.10, gives an overview of the processes involved.
The Retained Organization after IT Outsourcing

Level | IPW domain | IPW process
--- | --- | ---
Tactical | ICT domain | Service level management
Tactical | ICT domain | Continuity management
Tactical | ICT domain | Availability management
Tactical | ICT domain | Capacity management
Tactical | ICT domain | Financial management
Tactical | ICT domain | Security management
Operational | ICT domain | Change management
Operational | ICT domain | Problem management
Operational | ICT domain | Incident management
Operational | ICT domain | Configuration management
Operational | ICT domain | Release management

Table 4.10: The contract monitoring capability and its corresponding IPW processes

**Service level management**
The purpose of service level management is to maintain and improve the quality of the delivered IT service(s) by continually managing the IT service achievements. The contract layer under the Framework Agreements is Service Level Agreements (SLA). These SLAs include the level of the specific services. This part of the contract needs to be the relatively most flexible part and consequently will be most subject to changes (Beulen and Ribbers, 2002). An upcoming mechanism to support adaptations in SLAs is the Balanced Score Card, a tool useful for discussions at both tactical and strategic level to implement changes in the contracts. The Balanced Score Card ensures a business discussion and prevents a technical oriented discussion. Service level agreements are made, monitored and the results are reported. When these results do not meet the expectations, it is possible to eliminate certain bad practices in order to improve the quality of the service(s).

Another important task of this process is the production of an (annual) service catalog where all the IT services, which can be delivered by the supplier and are included within the IT outsourcing contract, are described.

As we already described, this the service level management process is expanded with the monitoring of the service planning processes and the service operations processes, which primary responsibility is with the supplier. The secondary responsibility however, the monitoring of these processes is with the client organization. We will give a short overview of the content of the different processes.

The **continuity management** process manages the risks and addresses the planning and preparation of disaster recovery in case potential risks occur.

The purpose of **availability management** is to ensure an acceptable level of availability of the IT services agreed with the supplier, while **capacity management** is concerned with managing the capacity of the IT resources to fit the current and future requirements.

**Financial management** is responsible for determining and controlling the IT costs for all the IT services and the **Security management** process has the responsibility to protect the organization for certain threats and risks by securing all the information and data.

**Change management** has the responsibility for efficiently implementing approved changes with an acceptable risk for current and future IT services, while **problem and incident**
management have to ensure the continuity of the service levels. This implies minimizing the negative effect of incidents and analyzing the cause of an incident or problem. The configuration management process provides actual information about all the components of the IT infrastructure and release management is responsible for the safe implementation or adaptation of hardware and software.

As we already said, the primary responsibility for all these processes is with the supplier. However, to keep control over the supplier, it continues to be necessary to control the supplier.

**Capability 9: Vendor development**

There is no specific IPW process that addresses this capability. All the capabilities described should in some way incorporate this capability, namely the search for maximizing the value from the IT supplier.

**Capability 10: Project management**

The project management capability consists of two IPW processes, namely (1) service build & test and (2) service design.

<table>
<thead>
<tr>
<th>Level</th>
<th>IPW domain</th>
<th>IPW process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tactical</td>
<td>ICT domain</td>
<td>Service built and design</td>
</tr>
<tr>
<td>Tactical</td>
<td>ICT domain</td>
<td>Service test</td>
</tr>
</tbody>
</table>

*Table 4.11: The project management capability and its corresponding IPW processes*

The processes service built and design and service test are involved in the design of new services concerning application as well as the technical infrastructure. It belongs to the discipline of project management. These activities can be outsourced, but there are also organizations maintaining staff for application development. Project management may play, however temporarily, an important role within the IT organization.

As we have seen, the ‘vendor development’ capability does not have a corresponding process, while the ‘making technology work’ can only be subdivided within the operations management process, which is completely outsourced.

Two IPW processes, service built and design and service test, cannot be mapped within one of the nine IT core capabilities. Therefore a new capability has been introduced, the project management capability. In the next section we will pay attention to the results extracted from the five conducted interviews.
4.4 The results from the interviews concerning the capabilities

This section will describe the results of the conducted interviews with regard to the retained IT core capabilities. Five organizations, all with relatively long experience with IT outsourcing, have been interviewed, namely: Aegon, CSM, Eneco, SVB and Xerox. Appendix V shows the interview questionnaire.

4.4.1 Aegon

Aegon is the holding company of one of the world’s largest listed insurance groups. The Group’s businesses offer a diverse portfolio of products: principally in life insurance, pensions and related savings and investment products, but also in accident, health and general insurance (Aegon, 2003). Aegon outsourced their IT infrastructure (service management) and their application support and maintenance, mainly in order to guarantee the continuity of the service delivery, but also for increased quality and cost reduction. The retained capabilities listed below are extracted from an interview with the Director Business IT Development and Innovations.

<table>
<thead>
<tr>
<th>Aegon</th>
<th>Feeny and Willcocks’ capabilities</th>
<th>Corresponding organization-specific capabilities/roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>Shared CIO structure</td>
<td></td>
</tr>
<tr>
<td>Business systems thinking</td>
<td>Information managers (decentralized)/ strategy manager</td>
<td></td>
</tr>
<tr>
<td>Relationship building</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Architecture planning</td>
<td>IT management: expertise about architecture, telecommunications, security, disaster recovery</td>
<td></td>
</tr>
<tr>
<td>Making technology work</td>
<td>Not available (outsourced)</td>
<td></td>
</tr>
<tr>
<td>Informed buying</td>
<td>Finance: contract management and IT finance, legal advise (outsourced)/ strategy manager</td>
<td></td>
</tr>
<tr>
<td>Contract facilitation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contract monitoring</td>
<td>Process control: service level management, change control, problem control</td>
<td></td>
</tr>
<tr>
<td>Vendor development</td>
<td>Not distinguished as a specific role</td>
<td></td>
</tr>
<tr>
<td>Not existing in framework</td>
<td>Project management (application development)</td>
<td></td>
</tr>
</tbody>
</table>

4.4.2 CSM

CSM is an internationally operating company engaged in the development, production, sale and distribution of food ingredients and confectionery (CSM, 2003). CSM outsourced certain network services (corporate network and intranet), mainly because they did not want to start up those activities internally. The retained capabilities listed below are extracted from an interview with the CIO.

<table>
<thead>
<tr>
<th>CSM</th>
<th>Feeny and Willcocks’ capabilities</th>
<th>Corresponding organization-specific capabilities/roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>CIO and information managers, business managers</td>
<td></td>
</tr>
<tr>
<td>Business systems thinking</td>
<td>Within divisions (decentralized)</td>
<td></td>
</tr>
<tr>
<td>Relationship building</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Architecture planning</td>
<td>Implementation consultancy, security &amp; decentralized expertise</td>
<td></td>
</tr>
<tr>
<td>Making technology work</td>
<td>Not available (outsourced)</td>
<td></td>
</tr>
<tr>
<td>Informed buying</td>
<td>Contract management, IT procurement, financial control, implementation consultancy, legal advise</td>
<td></td>
</tr>
<tr>
<td>Contract facilitation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contract monitoring</td>
<td>Service level management, change management</td>
<td></td>
</tr>
<tr>
<td>Vendor development</td>
<td>Not distinguished as a specific role</td>
<td></td>
</tr>
<tr>
<td>Not existing in framework</td>
<td>Project management</td>
<td></td>
</tr>
</tbody>
</table>
4.4.3 Eneco

Eneco specializes in the trade and supply of gas, electricity, heat and offers its products and related services to private and business customers (Eneco, 2003). Eneco outsourced their desktop services, network services and application support and maintenance for several reasons: focus on core business, cost reduction, access to technical expertise and new technologies and flexibility. The retained capabilities listed below are extracted from an interview with the Contract Manager.

<table>
<thead>
<tr>
<th>Eneco</th>
<th>Feeny and Willcocks’ capabilities</th>
<th>Corresponding organization-specific capabilities/roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td></td>
<td>Head of IT</td>
</tr>
<tr>
<td>Business systems thinking</td>
<td></td>
<td>Information policy and business alignment/ information managers (decentralized)</td>
</tr>
<tr>
<td>Relationship building</td>
<td></td>
<td>Architecture management and basic infrastructure</td>
</tr>
<tr>
<td>Architecture planning</td>
<td></td>
<td>Not available (outsourced)</td>
</tr>
<tr>
<td>Making technology work</td>
<td></td>
<td>Contract management, service management, financial control, IT procurement, legal advise</td>
</tr>
<tr>
<td>Informed buying</td>
<td></td>
<td>Service management</td>
</tr>
<tr>
<td>Contract facilitation</td>
<td></td>
<td>Not distinguished as a specific role</td>
</tr>
<tr>
<td>Contract monitoring</td>
<td></td>
<td>Project management</td>
</tr>
<tr>
<td>Not existing in framework</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.4.4 Sociale verzekeringbank (SVB)

The Sociale verzekeringbank is responsible for implementation of the Dutch social insurance schemes, AOW, Anw, AKW, TOG and PGB (SVB, 2003). SVB outsourced their mainframes, as these became obsolete and were considered as a ‘dead-end’. Besides these considerations, outsourcing should also lead to cost reduction.

Because a relatively small part of the IT services was outsourced, there still was a large IT department available for internal IT functions, implying that the staff was responsible for both outsourced and internal IT services. The retained capabilities listed below are extracted from an interview with the Contract Manager and with the Member of the Executive Board responsible for ICT and Organization.

<table>
<thead>
<tr>
<th>SVB</th>
<th>Feeny and Willcocks’ capabilities</th>
<th>Corresponding organization-specific capabilities/roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td></td>
<td>Member of the Executive Board/ contract manager (strategic)</td>
</tr>
<tr>
<td>Business systems thinking</td>
<td></td>
<td>ICT group, process organization</td>
</tr>
<tr>
<td>Relationship building</td>
<td></td>
<td>ICT group</td>
</tr>
<tr>
<td>Architecture planning</td>
<td></td>
<td>Not available (outsourced)</td>
</tr>
<tr>
<td>Making technology work</td>
<td></td>
<td>Contract management, financial control, IT procurement, legal advise</td>
</tr>
<tr>
<td>Informed buying</td>
<td></td>
<td>Service management</td>
</tr>
<tr>
<td>Contract facilitation</td>
<td></td>
<td>Not distinguished as a specific role</td>
</tr>
<tr>
<td>Contract monitoring</td>
<td></td>
<td>Project management</td>
</tr>
<tr>
<td>Not existing in framework</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.4.5 Xerox
Xerox Corporation offers an innovative array of color and black-and-white digital printers, digital presses, multifunction devices, and digital copiers, as well as a broad range of services, solutions, and software (Xerox, 2003). Xerox outsourced all their IT services worldwide, for a variety of reasons, including cost reduction and focus on core business, technological improvement, access to technical expertise and new technologies and flexibility. The retained capabilities listed below are extracted from an interview with the former Contract Manager of Xerox.

<table>
<thead>
<tr>
<th>Xerox</th>
<th>Feeny and Willcocks’ capabilities</th>
<th>Corresponding organization-specific capabilities/roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>Director of IT, CFO</td>
<td></td>
</tr>
<tr>
<td>Business systems thinking</td>
<td>IT managers (decentralized)</td>
<td></td>
</tr>
<tr>
<td>Relationship building</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Architecture planning</td>
<td>Infrastructure, application development, integration</td>
<td></td>
</tr>
<tr>
<td>Making technology work</td>
<td>Not available (outsourced)</td>
<td></td>
</tr>
<tr>
<td>Informed buying</td>
<td>Contract management, IT budgeting, IT procurement, legal advise</td>
<td></td>
</tr>
<tr>
<td>Contract facilitation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contract monitoring</td>
<td>Service management</td>
<td></td>
</tr>
<tr>
<td>Vendor development</td>
<td>Not distinguished as a specific role</td>
<td></td>
</tr>
<tr>
<td>Not existing in framework</td>
<td>Project management</td>
<td></td>
</tr>
</tbody>
</table>

As we can see, the results are in agreement with the conclusions we made in the next section about the retained capabilities. None of the interviewed organizations retained the ‘making technology work’ capability and all emphasized that this capability is/ was outsourced. The ‘vendor development’ capability was not distinguished as a specific role, nor was it considered to be a typical retained IT capability. Creating added value happens at each level and in each management area and this specific capability can be incorporated within all the other capabilities. Project management was retained in all organizations, some way or another.

4.5 The revision of the framework of retained capabilities
There is no general agreement about which parts of the organization are really core and should never be outsourced. Although the strategic level of every management category (functional, application and technical) is always core; the difference is at the tactical and operational level. Looijen (2001) considers the tactical and operational level of both application and technical management to be non-core, which means that those areas can be outsourced (see table 4.13). Lacity and Willcocks (2001) however consider the tactical management and to some degree also the operational level for application management to be core and also to some extent the tactical level of technical management.

<table>
<thead>
<tr>
<th>Management</th>
<th>Level</th>
<th>IT outsourcing?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional</td>
<td>Strategic</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Tactical</td>
<td>N</td>
</tr>
<tr>
<td>Application</td>
<td>Strategic</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Tactical</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>Operational</td>
<td>Y</td>
</tr>
<tr>
<td>Technical</td>
<td>Strategic</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Tactical</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>Operational</td>
<td>Y</td>
</tr>
</tbody>
</table>

Table 4.13: Relationship between the three management levels and IT outsourcing (based on Looijen, 2001)
Those two perspectives, of both Looijen and Lacity and Willcocks, are graphically presented in the figure below (figure 4.9). As we can see, the capabilities (with the exception of the vendor development capability as it is integrated in all the other capabilities as we already argued) are positioned in the earlier used framework with help of the integrated IPW™ model.

![figure 4.9: The positioning of Feeny and Willcocks' core capabilities (based on Lacity and Willcocks, 2001)](image)

The necessity of one of them, namely ‘making technology work’ seems to be doubtful in the view of Looijen. Out of the literature (Lacity and Willcocks, 2001; Kern and Willcocks, 2001), the IPW processes and also out of the interviews it becomes clear that this capability doesn’t have to be maintained within the retained organization. It is both technical and operational and therefore the responsibility of the supplier.

The ‘vendor development’ capability has to be maintained but is not distinguished as a specific role. Creating added value happens at each level and in each management area and this specific capability can be incorporated within all the other capabilities. Moreover, ‘vendor development’ is not a specific characteristic of IT outsourcing. It is therefore not included in the figure above.

The capability project management on the contrary is added to the framework. Project management is the application of knowledge, skills, tools, and techniques to plan and execute activities that meet or exceed client needs and expectations from a project. The retainment of this capability is confirmed by five interviews and by the IPW model. The table below shows in what way Feeny and Willcocks’ framework of core capabilities has been revised and why.

<table>
<thead>
<tr>
<th>Change(s) in capabilities</th>
<th>Making technology work (Excluded)</th>
<th>Vendor development (Excluded)</th>
<th>Project management (Included)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reason(s) for these changes</td>
<td>- Not included in IPW model</td>
<td>- Not included in IPW model</td>
<td>- Included in IPW model</td>
</tr>
<tr>
<td></td>
<td>- Responsibility of supplier</td>
<td>- Not IT outsourcing specific</td>
<td>- Responsibility of client</td>
</tr>
<tr>
<td></td>
<td>- Conclusion is confirmed by five different interviews</td>
<td>- Not matchable with a role</td>
<td>- Conclusion is confirmed by five different interviews</td>
</tr>
</tbody>
</table>

*Table 4.14: The changes made to Feeny and Willcocks’ framework of core capabilities*
It turns out that the eight core capabilities we described in this paragraph to be necessary to retain, support the conclusions we made in chapter 3, where the four elements of the retained organization are described. In the figure below (figure 4.10), we can see that the retained organization consists of (1) providing knowledge and expertise, (2) monitoring the supplier, (3) managing the relationship and (4) providing incentives to maintain the power balance. Those have been divided into several categories, which made it possible to distinguish the core capabilities. The abbreviations ST and LT refer to short term and long term respectively and are part of another characteristic of the capabilities, namely the time horizon appropriate to each capability. For contract monitoring, vendor development, architecture planning and business systems thinking the emphasis is on identifying and protecting the long term position: the target business process, the technical architecture over time, and the lasting arrangements with service providers. Relationship building and contract facilitation, on the contrary, must be committed to short-term progress within the constraints imposed by the long-term interests of their colleagues. Relationship builders and contract facilitators similarly need to keep things moving. The challenge for leadership and informed buying is constantly balance long-term interests against short-term imperatives. As figure 4.10 shows, the ‘vendor development’ capability and the ‘making technology work’ capability have been removed from the framework of Feeny and Willcocks.

Figure 4.10: The four elements of the retained organization combined with the retained capabilities
The eight different capabilities form a team in two ways:

1. The capabilities are interdependent and complementary;
2. The people performing those capabilities have to work together interpersonally.

Rockart et al. (1996) emphasize in their *seventh imperative*, “building high performance”, that the trend is towards fewer personnel, but of very high quality and therefore the roles within the relatively small retained IT organization should be high performers. Those people are achievers with a projects/results mentality, who set high standards for themselves, are decisive, have a high learning capability and are good communicators. Moreover they are flexible and can anticipate for unpredicted changes.

In addition to this, Rockart et al. (1996) mention in their *fifth imperative* ‘the reskilling of the IT organization’, in order to get a staff with the right skills. Because of the already mentioned quickly evolving nature of technology, sufficient technical skills are important. Business skills are relevant because IT affects most organizational processes in some way, which makes it a very critical and important part of the company. This is also already mentioned in chapter 3. Ross et al. (1996) confirms the importance of people by its emphasis on the *human asset*, a highly motivated IT staff that solves business problems and addresses business opportunities through information technology.

It turns out that each of the eight core IT capabilities could be represented as a combination of certain characteristics or skills, which have been divided into three categories, (1) technical skills, (2) business skills and (3) interpersonal skills (Feeny and Willcocks, 1998; Lacity and Willcocks, 2001; Ross et al., 1996).

**Technical Skills**

While the need for technical skills is obvious in architecture planning and making technology work, technical skills are important across the spectrum of the core IT capabilities to enable the client organization to maintain a degree of control over its IT destiny. Earl and Feeny (1994) mention that the appropriate background for leadership is characterized by "a profound knowledge of IT" and by a long apprenticeship in the IT function. High-performers in relationship building and business systems thinking tend to have outstanding technical skills, while also supply management capabilities such as contract monitoring require technical skills and people with substantive IT experience. Closer analysis and interpretation suggests that the common requirement is best captured as "understanding IT capability or the "know why" stage.

**Business Skills**

Significant business skills are a prerequisite for delivering at least five of the core IS capabilities: leadership, business systems thinking, relationship building and informed buying. The business skills required by leadership are related to developing business vision and strategy, identifying business opportunities for IT, and the business potential of new technologies. Business systems thinking will be even more focused on these issues, although
less technical. Informed buying also needs high business skills but these are concentrated on extracting value from suppliers, by monitoring the market and specific suppliers, by negotiation, and by supply management. Relationship building, contract facilitation and contract monitoring are all highly concerned to add value to the business, but the business skills are more operational in their focus. Business skills are less important for architecture planning, as this capability is mainly technically focused.

**Interpersonal Skills**

Because IT becomes more pervasive in organizations and because of the growing trend towards IT outsourcing, the importance of the interpersonal skills increases. Moreover, fewer staff in the retained organization also leads to closer contact with users and managers and team working becomes important. The type of interpersonal skills will vary. Leadership skills are important for leadership, informed buying and to a less extent for business systems thinking. Communication, teambuilding and facilitation skills are highest in leadership, relationship building, contract facilitation, informed buying and project management. Negotiation skills are relevant for contract facilitation, informed buying and relationship building, whereas bridge building is important for contract facilitation and relationship building.

The above-mentioned characteristics have been summarized in the table 4.15.

<table>
<thead>
<tr>
<th>Capability</th>
<th>Technical Skills</th>
<th>Business Skills</th>
<th>Interpersonal Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Business Systems Thinking</td>
<td>Medium/High</td>
<td>High</td>
<td>Medium/High</td>
</tr>
<tr>
<td>Relationship Building</td>
<td>Medium/High</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Architecture Planning</td>
<td>High</td>
<td>Low/Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Informed Buying</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Contract Facilitation</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Contract monitoring</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Project management</td>
<td>Medium/High</td>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>

*Table 4.15: Characteristics of the nine IT core capabilities*

This high performance profile also sets serious challenges for human resource management and a supportive environment around the retained organization is therefore required, especially with large outsourcing deals. Otherwise mismatching, outdatedness and inflexibility in the human resource policy of the client organization can occur. The questions involved are, how to pay these high performers at a level that is acceptable, how to provide them with the challenge they are looking for and how to set out a career path in this small retained organization. Retaining these high performers and related capabilities forms an insurance policy on keeping control over the supplier and the client’s IT destiny and will be the most likely source of future competitive advantage the client gains from its IT (Kern and Willcocks, 2001).
We finally distinguish six main areas (consisting of eight IT core capabilities), which have to be covered by the retained IT organization, as shown in figure 4.11. This is a revision and a refinement of the framework proposed by (Feeny and Willcocks, 1998).

The distinguished areas are (1) the business area, (2) the contract management area, (3) the leadership area, (4) the project management area, (5) the service management area and (6) the technical area.

**BUSINESS AND IT VISION**

1. Business area
   - Business systems thinking
   - Relationship building

2. Contract management area
   - Informed buying
   - Contract facilitation

3. Leadership area
   - Leadership
   - Architecture planning

4. Project management area
   - Project management
   - Contract Monitoring

5. Service management area

6. Technical area

**DESIGN OF IT ARCHITECTURE**

**DELIVERY OF IT SERVICES**

Figure 4.11: The revised and refined framework of capabilities within the retained IT organization

**1. The business area (business systems thinking and relationship building capabilities)**
This area is concerned with business strategy, the analysis and design of business processes, project management and managing relationships with users. As business success and technical success become more integrated and as IT budgeting decisions move out of the traditional IT organizations, this significance of this area increases.

**2. The contract management area (informed buying and contract facilitation capabilities)**
The contract management area is about evaluating the supplier and supplier market and negotiating the contract and contract changes, taking into account all the relevant aspects of the contract including financial, legal, technical and business knowledge.

**3. The leadership area (leadership capability)**
The focus of this area is on translating business strategy to IT strategy, IT envisioning and governing the service delivery and IT processes at the highest level. IT leadership will be required to understand the organization’s business strategy to ensure that the IT services enable the predefined objectives.
(4) **The project management area (project management capability)**

Project management is the application of knowledge, skills, tools, and techniques to plan and execute activities that meet or exceed client needs and expectations from a project. It includes activities such as defining the problem, identifying and planning project activities, minimizing risk and managing the project, the resources and team members. This capability is important to manage an IT supplier temporarily when a new IT project has to be executed.

(5) **The service management area (contract monitoring capability)**

The service area is involved with performance monitoring and managing the day-to-day relationship with the supplier and users.

(6) **The technical area (architecture planning capability)**

The technical area is fundamental for the support of the internal and external connectivity of the organization. Therefore the architectural blueprint must be stable, as well as flexible enough to withstand the changing business and IT requirements to create a durable infrastructure.

The provision of knowledge and expertise is available within all the areas. The business area provides knowledge about the business, the contract management area is responsible for financial, legal and contractual issues, while the technical area is able to provide technical expertise. The leadership area and the service management area, respectively, are involved with strategy and supplier performance.

The management of the relationship mainly is the responsibility of the service management area (operational level), the contract management level (tactical level) and the leadership area (strategic level).

The responsibility for monitoring the supplier is the terrain of the service management area, although the business area, with monitoring local SLAs, is also part of it. The monitoring of the contract is the domain of the contract management area.

All the areas provide incentives to maintain the power balance between the client and the supplier. Technical and business knowledge is available within the technical and business area. Contract management knowledge, including financial, legal and negotiation expertise is embedded within the contract management area, while all the strategic and operational knowledge about the IT supplier is incorporated within leadership and service management area.

4.6 **Summary**

By means of information extracted from five interviews conducted by five different companies (Aegon, CSM, Eneco, SVB and Xerox) and from the integrated IPW™ model, the theoretical framework of Feeny and Willcocks has been revised and refined.
The IPW model has been chosen for several reasons. First, it integrates five well-known existing methods/models, namely (1) ITIL, (2) ASL, (3) Prince2, (4) ISPL and (5) CMM, which makes it more complete than any of the other individual methods and models. Second, the integrated IPW model makes a clear distinction between the business domain, the ICT domain and the supplier domain, also identifying the processes within the IT organization to align those three domains. Third, the alignment of the capabilities with processes is very useful in this case, as processes, in comparison with capabilities, more clearly specify the retained activities, giving a distinct picture of how to link certain activities to a specific individual role. Fourth, IPW uses well-known terminology.

The five companies have been chosen because they all did have a relatively long experience with IT outsourcing, which makes a stable, efficiently and effectively functioning retained organization most likely.

Two capabilities, ‘vendor development’ and ‘making technology work’ have been removed, while the ‘project management’ capability has been added to the framework. Finally, six areas of capabilities have been distinguished: (1) the business area, (2) the contract management area, (3) the leadership area, (4) the project management area, (5) the service management area and (6) the technical area. Out of information extracted from the interviews, from the integrated IPW model and from existing literature (Lacity and Willcocks, 2001; Kern and Willcocks, 2001), it becomes clear that these six areas most likely have to be retained.
5 The Retained Roles

The purpose of this chapter is to align the retained IT capabilities and processes with their corresponding roles. The first section will clarify the definitions of the terms role and responsibility. The restrictions of the existing methods with regard to the roles related to IT outsourcing will be described in the second section. The third section gives an overview of the different roles in order to position these roles into the framework we described in the former chapter. Section 4 describes the retained roles and their role description explicitly.

5.1 Definition of ‘role’

We will define the term ‘role’ in accordance with (OED, 1988) as one's function, what a certain individual is appointed or expected to do. The relationship between a role and an individual can be clarified as follows:
1. One role can be fulfilled by one or more individuals;
2. One individual can fulfill one or more roles.

5.2 The restrictions of the existing methods

There are quite a lot of differences between the several existing methods, which we introduced in chapter 4, section 4.3. Those involve (1) ITIL, (2) ASL, (3) Prince2, (4) ISPL and (5) CMM. These different frameworks and methods often focus on different domains. The focus of ITIL clearly is on the technical domain, while the focus of ASL is on the application domain and these separate models exist because of the differences in entities being managed and the necessity of having tight relationships between the specialized processes within that domain. Functional management is involved with the requirements derived from a business perspective on IT, application management deals with the maintainability and quality of the application and technical management deals with the availability, continuity and performance of the delivered IT services (Meijer and Meijers, 2002).

As none of the existing methods or frameworks focuses (exclusively) on outsourcing, we have gathered our information from several disciplines. Five well-known existing methods/models have been chosen to cover five areas:
(1) Technical management (ITIL);
(2) Application management (ASL);
(3) Project management (Prince2);
(4) Procurement (ISPL);
(5) IT governance (CoSiT).

Four of them are covered by the integrated IPW™ model and the figure below (figure 5.1) shows where they are located within this model (Bom et al., 2001). CMM will not be taken into account, as it is only of importance for the roles within the supplier organization, distinguishing no role of importance to the client. ITIL and ASL, on the contrary, do distinguish certain roles that are indeed of importance to the client, although their main emphasis is also on the supplier organization.
The different roles described in these specific methods and models, including CoBit, will be discussed in the next section.

5.3 The described roles in the existing methods
In this section we will identify the different roles within five well-known existing methods/models, namely ITIL, ASL, Prince2, ISPL and CoBit.

5.3.1 IT Infrastructure Library (ITIL)
ITIL, the IT Infrastructure Library, refers to a set of comprehensive, consistent and coherent codes of best practice for IT Service Management. The library describes a number of related processes. The objective of the OGC in developing ITIL is to promote business effectiveness in the use of IT due to increasing organizational demands to reduce costs while maintaining or improving IT services. Each described process in ITIL covers a specific part of IT Service Management and its relationship to other processes. The most popular ITIL processes are contained in the two sets representing key elements of IT Service Management. The Service Support and Service Delivery sets describe the processes that any IT service provider must address to enhance the provision of quality IT services for its customers (OGC, 2001). Most ITIL processes and roles are outsourced to the supplier. Only the service level manager has to be retained.

Service level manager: This role is about negotiating, defining, monitoring, reviewing, managing, changing and reporting on all supplier’s service levels. When involved in IT outsourcing, this role can be combined with the problem manager and the change manager. All those roles belong to the service management area.
5.3.2 Application Services Library (ASL)

ASL, the Application Services Library, is a framework that comprises processes in the field of application management and describes the definitions of these processes and the relationships between them. The ASL framework can be used for all forms of application management and thus, also for outsourced IT services. ASL only seems to cover the business area and distinguishes two roles, which are of importance, namely (1) the business manager and (2) the functional manager. We will describe those roles below (Meijer and Meijers, 2002):

**Business manager:** Describes the person with the overall responsibility for the business process in which the application(s) are used. The business manager is responsible for the decisions, and therefore makes changes if the individual parts are unable to agree with each other. This role belongs to the business area.

**Functional manager:** The functional manager is responsible for functionality of the applications. His activities are part of the field of functional management, which shapes the responsibility for the (maintenance and enhancement of the) functionality of the information system on behalf of the client organization. Which business processes (or part of it) are supported and which relevant knowledge, such as business rules or regulations, are processed in the application, are questions important to these roles. This role also belongs to the business area.

5.3.3 PRojects IN Controlled Environments (PRINCE2)

PRINCE2, PRojects IN Controlled Environments, is a project management method that covers the organization, management and control of projects. The method describes how a project is divided in manageable stages, enabling efficient control of resources and regular progress monitoring throughout the project. IT outsourcing can also be seen as a project, however, not a temporarily one. The various roles and responsibilities for managing a project are fully described and are adaptable to suit the size and complexity of the project and the skills of the organization. We will describe those roles below (Prince2, 1999).

**Executive:** The executive is ultimately accountable for the project, supported by the senior user and senior supplier. The executive has to ensure that the project is value for money, ensuring a cost-conscious approach to the project, balancing the demands of business, user and Supplier. This role belongs to the leadership area.

**Senior user:** The senior user is accountable for making sure that what is required is fit for its purpose and for ensuring that the solution meets user needs. The role represents the interests of all those who will use the final services(s) of the project. The senior user role commits user resources and monitors products against requirements. This role covers the business area.

**Senior supplier:** The senior supplier is there to ensure that proposals for designing and developing the services are realistic in that they are likely to achieve the results required by
the senior user within the cost and time parameters for which the executive is accountable. The role represents the interests of those designing, developing, facilitating, procuring, implementing, operating and maintaining the services.

**Project Manager**: The project manager is given the authority to run the project on a day-to-day basis. The project manager’s prime responsibility is to ensure that the project delivers the required services, to the required standard of quality and within the specified constraints of time and cost. This role covers both the contract and service management area.

### 5.3.4 Information Services Procurement Library (ISPL)

ISPL, the Information Services Procurement Library, is a best practice standard library for the management of acquisition processes related to IT, offering the client a framework for managing the acquisition and delivery of services and systems in a variety of situations. It encourages customers and suppliers to control costs and timescales, manage risks and improve mutual understanding and is therefore in particular beneficial to analyzing and managing the underpinning complexity and uncertainty. It is mainly used in large-scale services but its recommendations are also useful in small-scale services. It distinguishes several roles, which we will describe below (Proper, 2001).

**Senior management**: Organizational authority which ensures that the proposed acquisition is in line with and constrained by the strategic and tactical direction of the organization. This role covers the leadership area.

**Legal authority**: Organizational authority ensuring that the organization undertakes the contracts (and makes any amendments to them) within the legal constraints of applicable directives, national laws and trade agreements and ensuring that the contracts are legally sound. This role belongs to the contract management area.

**Project authority**: Role with the power to resolve or conclude an open issue within the frame of a contract with regard to a specific project. This role belongs to the project management area.

**Financial authority**: Organizational authority ensuring that the financial commitment required by the proposed contracts, and any amendments to them are consistent with the financial constraints of the organization. This role belongs to the contract management area.

**Service authority**: The role with the power to resolve or conclude an open issue with regard to a specific service. It belongs to the service management area.

**Contract authority**: The role with the power to resolve or conclude an open issue with regard to a specific contract. This role belongs to the contract management area.
Operational expertise: Role performing a production task or acting as an opinion maker based upon their expertise, skills or knowledge with regard to a specific topic. This role provides operational resource and gives expert opinion or skill or knowledge with regard to the business, technical and user requirements to be considered by the acquisition. It consists of three sub roles: business expertise, technical expertise and user expertise. Business and user expertise belongs to the business area, while technical expertise belongs to the technical area.

5.3.5 Control OBjectives for Information and related Technology (COSiT)
COSiT, Control OBjectives for Information and related Technology, bridges the gaps between business risks, control needs and technical issues. It presents IT activities in a manageable and logical structure and documents good practice across this structure. COSiT is independent of the technical IT platforms adopted in an organization. COSiT’s main theme is business orientation. It provides comprehensive guidance for management and business process owners and is firmly based in business objectives. The COSiT roles are not defined, only their relationship with COSiT’s IT governance model has been clarified (Implementation Tool Set, 2000).

Executive manager: This role accepts and promotes COSiT’s IT governance model for all entities within the enterprise. This role belongs to the leadership area.

Business manager: This role uses COSiT to establish a common entity wide control model so as to manage and monitor IT’s contribution to the business. This role belongs to the business area.

IT manager: This role uses the COSiT process model and detailed control objectives so as to structure the IT services function into manageable and controllable processes focusing on the business contribution. The latter is the domain of quality, security and effectiveness. This role belongs to the leadership area.

Project Manager: This role uses COSiT as general framework for minimal project and quality assurance standards. This role belongs to the project management area.

User: This role uses COSiT as minimal guidance for internal control to be integrated within information systems, being fully operational or under development. This role belongs to the business area.

Auditor: This role uses COSiT as basis for determining the IT audit universe and as IT control reference. This is an external role.
5.4 Renaming the existing roles: the retained roles

Appendix III gives an overview of the existing roles and their relation with the retained IT capabilities and IPW processes necessary to manage the supplier after IT outsourcing. In the table below we rename the different roles and show to which IPW process(es) they belong. The external area is included to give a complete overview, but is not part of the retained organization as the roles within this external area are optional and temporal.

All roles will be described in terms of a role description and a list of their responsibilities.

<table>
<thead>
<tr>
<th>Area(s)</th>
<th>Existing role(s)</th>
<th>IPW process(es)</th>
<th>Retained role(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business area</td>
<td>Business manager</td>
<td>Decentralized business activities such as: Business strategy, Business planning</td>
<td>Business manager</td>
</tr>
<tr>
<td></td>
<td>Functional manager</td>
<td>Demand management</td>
<td>Information manager</td>
</tr>
<tr>
<td></td>
<td>Business expertise</td>
<td>Functional management</td>
<td>Business analyst</td>
</tr>
<tr>
<td></td>
<td>User, user expertise</td>
<td>Business support, Application management</td>
<td>User</td>
</tr>
<tr>
<td>Contract management</td>
<td>Contract authority</td>
<td>Contract management, Operations support</td>
<td>Contract manager, Relationship manager</td>
</tr>
<tr>
<td>area</td>
<td>Legal authority</td>
<td></td>
<td>Legal advisor</td>
</tr>
<tr>
<td></td>
<td>Financial authority</td>
<td>Commercial policy, Finance</td>
<td>IT financial controller</td>
</tr>
<tr>
<td></td>
<td>Contract authority</td>
<td>Supply management, Purchase management</td>
<td>IT procurement officer</td>
</tr>
<tr>
<td>Leadership area</td>
<td>Senior management, Executive manager, Executive</td>
<td>Centralized business activities such as: Business strategy, Business planning</td>
<td>CEO, CFO</td>
</tr>
<tr>
<td></td>
<td>Senior management, Executive manager, Executive</td>
<td>Strategic sourcing, Information management, IT Valuing, Supplier portfolio management</td>
<td>CIO, IT director</td>
</tr>
<tr>
<td>Project management</td>
<td>Project manager</td>
<td>Service built and design, Service test</td>
<td>Project manager</td>
</tr>
<tr>
<td>area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service management</td>
<td>Service authority, service level manager, change manager,</td>
<td>Service level management, Other processes such as change control, problem control</td>
<td>Service manager</td>
</tr>
<tr>
<td>area</td>
<td>problem manager.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical area</td>
<td>Technical expertise</td>
<td>Architecture</td>
<td>Systems architect, Application architect, Technical architect, Data architect</td>
</tr>
<tr>
<td>External area</td>
<td>Not existing</td>
<td>All processes</td>
<td>Consultant, Auditor</td>
</tr>
</tbody>
</table>

Table 5.1: The retained roles, the corresponding IPW process(es) and the corresponding existing roles

5.4.1 Business area (business systems thinking and relationship building capabilities)

We distinguished four roles within the business area (Meijer and Meijers, 2002; Bom et al., 2001; Implementation Tool Set, 2000), namely (1) the business manager, (2) the information manager, (3) the business analyst and (4) the user.
1. **Business manager**: The business manager is the main responsible for developing and implementing business strategies for the organization, of which IT might be an important part.

   **Responsibilities of the business manager**:
   - Supporting the IT strategy and policy;
   - Supervising IT activities;

2. **Information manager**: The information manager has the main responsibility for decentralized IT decisions.

   **Responsibilities of the information manager**:
   - Ensuring alignment with the corporate IT;
   - Controlling IT budget;
   - Monitoring local SLAs;
   - Developing IT strategies and managing technical aspects of an IT-enabled organization.

3. **Business analyst**: The business analyst analyzes the overall business strategies, which forms the input for defining the functional and technical IT requirements.

   **Responsibilities of the business analyst**:
   - Developing, executing and monitoring business plans and strategies, taking into consideration the rapidly changing economic, technical and business environment;
   - Reviewing and evaluating business performances against the approved plans and strategies with regard to the delivered IT services;
   - Supporting units in terms of alignment of business and functional IT demands;
   - Identifying area of business growth and forecast business growth potential.

4. **User**: The user is an individual who interacts with a computing device through applications.

   **Responsibilities of the user**:
   - Using only legitimate authorized and licensed IT infrastructure and applications;
   - Using the IT services from the supplier in accordance with the contract and the predefined SLAs.

5.4.2 **Contract management area (informed buying and contract facilitation capabilities)**

Five roles have been distinguished within the business area (Proper, 2001; Bom et al., 2001), namely (1) the contract manager, (2) the IT financial controller, (3) the IT procurement officer, (4) the legal advisor and (5) the relationship manager.
1. **Contract manager**: The contract manager provides the IT contract(s) support services including contract administration, monitoring compliance with terms and conditions, review and revision of contract changes, supplier negotiation and contract interpretation for dispute resolution.

**Responsibilities of the contract manager:**
- Assisting in contracting for new services or projects to enable effective implementation of the IT outsourcing plan. Assisting in the preparation and negotiation of new contracts or variations to existing contracts;
- Assisting in the management of contracts and commercial relationships between the client and supplier to ensure effective delivery;
- Establishing a sound working environment to streamline issue resolution;
- Ensuring that the supplier(s) deliver(s) services that are consistent with current industry practice and meet the contract requirements and business needs;
- Providing information regarding internal focal points for support and for third party contract arrangements;
- Reviewing supplier compliance with terms and conditions including warranties, performance commitments, insurance obligations, regulatory compliance and contract commitments to third parties;
- Maintaining all documentation and records necessary to support the contract revision and dispute resolution process.

2. **IT Financial controller**: The IT financial controller has the responsibility for the organization’s financial IT planning and IT budget management functions. He has to ensure that the accounting procedures of the client conform to generally accepted accounting principles.

**Responsibilities of the IT financial controller:**
- Directing and coordinating the organization’s financial IT planning and IT budget management functions;
- Recommending benchmarks for measuring the financial and operating performance of the IT supplier;
- Monitoring and analyzing daily operating results, including monitoring the overall cost of the IT contract to ensure that budgets for the IT service(s) will not be exceeded;
- Monitoring the internal costs, including the costs of contract administration to ensure that these costs are reasonable and in keeping with the value of the contract;
- Directing and coordinating debt financing and debt service payments with supplier;
- Preparing financial analysis for contract negotiations with the supplier;
- Coordinating with the contract administration for payment procedures and budget procedures related to the delivered IT services.
3. **IT procurement officer**: The IT procurement officer maintains and supports all activities related to IT procurement. He has an important role before the contract is signed, but also when changes have to be made.

**Responsibilities of the IT procurement officer:**
- Managing the Request for Purchase process, which includes the collection, verification and justification of equipment and component requirements, development of the RFP, evaluation of the responses and giving recommendations for supplier selection;
- Preparing supplier qualification, selection and evaluation;
- Establishing, executing and monitoring procurement transaction activities; assuring transactions are completed within the allotted timeframe and meets identified cost objectives;
- Working closely with financial IT controller and information manager(s) to maintain inventory of all IT hardware and software;
- Managing the Request for Change process, defining the proposals and changes within the contract.

4. **Legal Advisor**: The legal advisor has to ensure that the organization complies with applicable laws, rules and regulations and that its contract(s) with the supplier(s) reflect the organization’s fundamental operating policies. He also identifies internal policies and procedures that need to be included in the outsourcing documents to diminish potential risks.

**Responsibilities of the legal advisor:**
- Describing properly the services and procedures for ongoing operations under the outsourcing arrangement;
- Managing intellectual property;
- Managing the risks through appropriate exclusions, limitations, indemnities, insurance and dispute resolution mechanisms.

5. **Relationship manager**: The relationship manager has to manage the requirements and problems within the business units.

**Responsibilities of the relationship manager:**
- Handling (unplanned) requests for action on issues that ranged from minor questions to very significant crises;
- Devising and pursuing processes for conflict resolutions;
- Being the focal point of contact for business managers;
- Enabling and enacting strategies for change;
- Interpreting business and technical issues within established contract framework.
5.4.3 The leadership area (leadership capability)
Within the leadership area (Proper, 2001; Bom et al., 2001; Implementation Tool Set, 2000), four roles have been distinguished, (1) the Chief Executive Officer or CEO, (2) the Chief Financial Officer or CFO, (3) the Chief Information Officer or CIO and (4) the IT director.

1. Chief Executive Officer (CEO): An outsourcing solution presents an opportunity to achieve many important corporate goals. The primary responsibility for defining and supporting the objectives of IT outsourcing is with the CEO and the decision about whether to outsource or not often is the responsibility of the CEO.

   Responsibilities of the CEO:
   • Developing a strategic plan to advance the company's mission and objectives and promoting revenue, profitability and growth as an organization, using IT as an important means;
   • Identifying strategic business opportunities relating to IT;

2. Chief Financial Officer (CFO): The CFO has the responsible for all the financial management aspects of the organization, establishing and controlling the strategic financial framework of the client organization with regard to IT outsourcing and providing financial information to the corporate staff and the business managers.

   Responsibilities of the CFO:
   • Directing the establishment of financial/accounting principles, procedures and practices for the IT supplier in line with legal and corporate requirements;
   • Advising on the financial implications of IT outsourcing decisions, and establishing the financial soundness of IT transactions and contracts;

3. Chief Information Officer (CIO): The Chief Information Officer has to ensure the effective development and operation of computing and information services, which support strategic operations of the organization and must maintain the integrity of the organization’s technology infrastructure. Since technology is rapidly evolving, expensive, labor intensive, relatively immobile, and difficult to obtain, the CIO must balance technology, human resources and capital budgeting in developing information technology strategies. The decision about whether to outsource or not might be the responsibility of the CIO or, as already mentioned, of the CEO.

   Responsibilities of the CIO:
   • Participating in major corporate decisions, particularly where IT has a major influence;
   • Leveraging IT for the organization’s competitive advantage and profitability;
   • Setting and controlling IT expenditures within budget;
• Developing the forecasting and planning for IT infrastructure and application purchases;
• Establishing and maintaining standards in relation to IT operations and security;

4. IT Director: The IT director has to ensure effective relationship between the supplier(s), IT and the business units by provide an environment where an effective flow of information between the client's business units, IT and suppliers is possible (IT governance). He also has the responsibility to optimize the effectiveness of outsourced IT services and meet the CIO’s IT outsourcing strategy requirements. This involves establishing appropriate IT service contracts and monitoring services at a tactical-strategic level.

Responsibilities of the IT director:
• Providing high level negotiation to ensure the client achieves value from the suppliers;
• Aligning IT and business strategy and ensuring alignment between IT strategy, business strategy and outsourcing strategy;
• Managing new services and providing proactive support in developing business focused solutions, articulating these to the suppliers and negotiating associated pricing and terms;
• Ensuring compliance with the client's security policies, coordinating security audit and ensuring that the supplier(s) act(s) on recommendations;
• Maintaining all documentation and records necessary to support the relationship process and outputs;
• Having the overall ownership of the IT outsourcing dispute escalation and resolution on behalf of the client;
• Monitoring user satisfaction with the service delivery and managing issues with the IT supplier.

5.4.4 Project management area (project management capability)
The project management area (Prince2, 1999) consists of one single role, (1) the project manager.

1. Project manager: The project manager is the individual responsible for delivering the project. He leads and manages the project team with the authority and responsibility to run the project on a day-to-day basis.

Responsibilities of the project manager:
• Designing and applying an appropriate project management framework for the project;
• Managing the production of the required deliverables;
• Planning and monitoring the project;
• Managing a team of specialist staff;
• Adopting any delegation and use of project assurance roles within agreed reporting structures;
• Preparing and maintaining the project plan as required;
• Managing project risks, including the development of contingency plans;
• Monitoring the progress and use of resources and initiating corrective action where necessary;
• Reporting through agreed reporting lines on project progress;
• Adopting technical and quality strategy;
• Identifying and obtaining any support and advice required for the management, planning and control of the project;
• Managing project administration.

5.4.5 Service management area (contract monitoring capability)

One role has been positioned within the service management area (OGC, 2001; Proper, 2001), namely (1) the service manager.

1. Service manager: The service manager role is involved with monitoring and controlling the IT service(s) as delivered by the supplier throughout the duration of the contract, to ensure that performance targets continue to be met, users remain satisfied, the expected service levels continue to be achieved and the services continue to be performed and delivered in the expected manner.

Responsibilities of the service manager:
• Negotiating, defining, monitoring, reviewing, managing, changing and reporting on all supplier’s service levels;
• Delivering and managing all contractual services level issues;
• Ensuring that the performance review system, focused on the quantitative performance targets specified in the SLAs, is maintained to be relevant to the outsourcing contract and changing business needs;
• Evaluating the level of service performance against contract/agreement by the suppliers to ensure the client's’ ongoing maintenance of professional IT standards and delivery;
• Identifying service achievements and/or defaults and advising the IT director.
• Implementing and managing the risk/reward regime(s);
• Applying service level penalties if the supplier performs below the service credit threshold;
• Providing ongoing reviews of capacity planning;
• Approving change requirements where required;
• Identifying deficiencies, defining requirements, approving upgrades and major changes, approving delivery schedules, approving delivery solutions.
5.4.6 Technical area (architecture planning capability)
The technical area (Gaakeer and Kooter, 2002; Rijsenbrij et al., 2001; Rottier, 2002) consists of four different roles, (1) the systems architect, (2) the application architect, (3) the technical architect and (4) the data architect.

1. **Systems Architect**: The systems architect is often referred to as the lead architect. Reporting to them may be an application architect, who is responsible for every part of the application that is visible to the user, a technical architect, who is responsible for the technical platform, development environment and any of the infrastructure pieces and a data architect, who is responsible for the data including any conversions or interfaces.

   **Responsibilities of the systems architect**:
   - Determining and defining an architectural model based on client requirements and technical drivers;
   - Setting and communicating the technical vision and overseeing implementation to ensure integrity of information, application, integration and technical development with architectural model;
   - Defining functional and non functional requirements including performance, security and reliability;
   - Providing technical leadership.

2. **Application Architect**: The application architect has the overall responsibility for the management and planning of the applications architectural domain.

   **Responsibilities of the application architect**:
   - Monitoring emerging technology and leading the investigation and adaptation of beneficial applications technologies;
   - Assisting in the creation of a multiple member architecture team consisting of domain experts representing applications, technical and data architect(s);
   - Documenting the existing IT application architecture environment in order to produce and maintain an accurate view of current applications;
   - Setting formal standards policies and processes to integrate application architecture considerations;
   - Defining processes and criteria for granting exceptions to the applications architecture standards;
   - Assisting project manager to ensure agreed-upon architectural goals are taken into account;
   - Defining architecture components and interfaces based on application architectural standards;
   - Documenting and modeling current applications and developing a transition strategy to migrate them to new systems;
- Verifying functional requirements;
- Partitioning applications into subsystems to maximize operational performance;

3. **Technical Architect**: The technical architect is responsible for the technical platform, development environment and infrastructure.

   **Responsibilities of the technical architect:**
   - Defining and documenting operational and system infrastructure requirements;
   - Modeling current infrastructure and determining migration strategy;
   - Evaluating and recommending appropriate hardware and network infrastructure based on cost, performance and user needs;
   - Evaluating and recommend product selections;
   - Ensuring that user requirements for security, reliability and performance levels are met;
   - Overseeing the integration of commercial and custom components as well as the integration with other business infrastructures as necessary;
   - Designing performance and infrastructure testing protocols and documentation.

4. **Data Architect**: The data architect is responsible for establishing the data architecture.

   **Responsibilities of the data architect:**
   - Setting high level strategy and modeling guidelines for systems and enterprise level applications;
   - Defining both approach and model to collect and document user business and data requirements;
   - Determining transition strategy from current to new architecture, including integration with current data and information systems;
   - Functioning as liaison between the user and the application architects;
   - Leading the design and quality assurance of both business and software object models;
   - Monitoring emerging technology and leading the investigation and adaptation of beneficial data technologies;
   - Assisting senior management in translating its vision mission statement and business strategy into a set of agreed-upon architectural principles;
   - Assisting in the creation of a multiple member architecture team consisting of domain experts representing applications, technical and data architect(s);
   - Documenting the existing data architecture environment in order to produce and maintain an accurate view of the current data environment;
• Setting formal standards, policies and processes that integrate data architecture considerations and impact assessment into the broader set of practices;
• Assisting the project manager to ensure agreed-upon architectural goals;
• Defining architecture components and interfaces based on architectural standards;
• Ensuring data quality throughout the organization;
• Designing, constructing and implementing programs to ensure the quality and usefulness of all data assets.

5.4.7 External area
Two external roles can be distinguished, which can cover all six areas and all processes. Those roles are (1) the consultant and (2) the auditor. As already mentioned, these roles are optional and temporal, not being part of the retained internal IT organization. They are described to give a complete picture of the (external) retained roles, but do not contribute to resolving the main research question.

1. Consultant: Consultants specialized in the disciplines of outsourcing can add value to an IT outsourcing transaction. Clients frequently hire such consultants to gauge the prospective deal against similar deals.

   Responsibilities of the consultant:
   • Defining the rationale for the outsourcing;
   • Defining the type and scope of the services to be outsourced;
   • Defining the service levels;
   • Identifying, evaluating and selecting suitable suppliers;
   • Analyzing and advising on pricing issues;
   • Facilitating the negotiations and the transition;
   • Reviewing of actual performance against contractual performance and assisting in fine-tuning or other adjustments to reflect unanticipated changes in business environment, corporate goals, management, organizational structure etcetera.

2. Auditor: The auditor reviews the way the client had outsourced their IT services with regard to the objectives, the responsibilities, the performance (indicators), the risks, the IT costs and will formulate conclusions and recommendation.

   Responsibilities of the auditor:
   • Reviewing the agreement between the service user and the supplier (pre- or post-effect);
   • Carrying out audit work as is considered necessary regarding the outsourced function;
   • Reporting findings, conclusions and recommendations to management.
5.5 Summary

This chapter focused on the identification and description of the retained roles. Within the six main areas covered by the retained organization (see chapter 4), we identified different roles. Within the *business area*, we distinguished (1) the business manager, (2) the information manager, (3) the business analyst and (4) the user.

Within the *contract management area*, a distinction has been made between (1) the contract manager, (2) the legal advisor, (3) the IT procurement officer and (4) the IT financial controller and (5) the relationship manager.

Within the *leadership area*, we made a distinction between (1) the CEO, (2) the CFO, (3) the CIO and (4) the IT director.

In the *project management area*, we only distinguished (1) the project manager, while the *service management area* also consists of one role, namely (1) the service manager.

Within the *technical area*, we distinguished (1) the systems architect, (2) the application architect, (3) the technical architect and (4) the data architect.

The external area consists of (1) the consultant and (2) the auditor. These external roles are optional and temporal, not being part of the retained internal IT organization.
6 The IT Structure and the Location of the Roles

This chapter will concentrate on the different factors influencing the IT governance structure and the location of the retained roles within those different structures. The first section will describe three possible IT governance structures: the centralized, the decentralized, and the federal IT governance structure. In the second section, the factors influencing the choice of the IT governance structure will be identified. The purpose of the third section is to position the retained roles within the three different IT governance structures. The fourth section discusses the most recommended IT governance structure for IT outsourcing and explains why this is the case.

6.1 The different IT governance structures

The organizational structure of a company is defined as: responsibilities, authorities and relationships, arranged in a pattern, through which an organization performs its function (ANSI, 1994). Analysis by Earl et al. (1996) show that the centralized, decentralized, and federal structures are the most viable structures of an IT organization and these are the options that organizations can select. Earl et al. (1996) mention that downsizing of the IT department does not necessarily alter the centralized or decentralized dimension and that IT outsourcing is an option available to all the three configurations. We will now detail these structures.

6.1.1 Centralized IT organization

The centralized IT department, or the corporate service as Earl et al. (1996) call it, is an organizational structure where IT is a unified function reporting to corporate management. There might be some local IT within the business units, but it is all under the strategic, tactical, and operational control of central IT (see figure 6.1). There are several advantages related to this structure (Bauer, 2003). Centralized IT operations produce substantial economies of scale, because procurement of IT assets and IT services is possible on the broadest scale within the organization. Moreover, a unified approach to IT architecture and standards reduces integration difficulties and costs for new applications. Clarity about the IT strategy and its alignment with the overall organization improves, due to the simpler organizational communications required. Finally, a centralized staff might eliminate redundant functions, such as multiple help desk support groups.

However, there are also disadvantages related to this centralized structure. Centralized decision-making makes the response time slow and a centralized IT structure requires a very
effective decision and resource allocation process within the company, since each business unit can have different or conflicting needs for the IT resources capacity. If the IT services do not meet the requirements, outrages in one business unit can have a dramatic effect on the entire company.

The way the IT infrastructure is commonly deployed in a centralized IT governance structure can be graphically represented (see figure 6.2). As we can see there is one big corporate IT center and two business units, which are very small in order to show that the responsibility for IT is almost not represented in those business units.

The corporate center is totally responsible for the firm-wide infrastructure, which is of the biggest scale in the centralized IT governance structure, in comparison with the federal and decentralized IT governance structure. The business unit infrastructure and their local applications represent a very small part because the responsibility of the business units’ IT needs and requirements is (mainly) with the corporate staff.

![Centralized IT governance structure](image)

**Figure 6.2: The way the IT infrastructure is commonly deployed within a centralized IT governance structure (based on Weill et al., 2002)**

### 6.1.2 Decentralized IT organization

In case of a decentralized IT governance structure, IT is a distributed function. Each business unit contains its own IT capability under its own control and can choose to outsource its IT applications to a supplier. There is just a very small central IT unit, responsible for the support of corporate headquarters functions and possibly also for the small firm-wide IT infrastructure (see figure 6.3). The corporate management might only review the business unit’s capital and budget submissions for IT.

There are certain benefits of the decentralized IT governance structure (Bauer, 2003). The business units can respond faster and more flexible to necessary changes, as they have complete knowledge and choice over the allocation of IT resources to support...
business priorities and the costs are fully allocated to business unit initiatives. IT architects typically have better access to business information, allowing them to propose well-designed solutions to specific business problems. Moreover, in decentralized organizational models, the IT organization is typically perceived as a partner in the business unit, and defensive tensions, which can occur in highly centralized models, are reduced.

However, there are also some serious disadvantages associated with the decentralized IT governance structure. The company as a whole will have higher total procurement and operations costs due to inefficiencies related to the duplication of data centers and of multiple independent procurement and multiple IT suppliers. New technology can be very difficult and expensive to introduce, as they produce unnecessary integration expenses and introduce unexpected hurdles to the flow of company information. Also disadvantageous is the lack of synergy between the business units, resulting in increased learning costs and repetitive costs for making the same mistakes. Finally, we mention the issue of accountability. In case of failures, it is difficult to point out a single point of accountability in a decentralized IT structure.

The way the IT infrastructure is commonly deployed in a decentralized IT governance structure is graphically represented in figure 6.4. As we can see there is just a small corporate IT center and two business units, which are very large in order to show that most of the IT decisions and responsibility is with the business units. The corporate center is responsible for the firm-wide infrastructure, which is of the smallest scale in the decentralized IT governance structure, in comparison with the centralized and federal IT governance structure. The business unit infrastructure and their local applications represent a very large part of the whole IT, because the main responsibility of the business units’ IT needs and requirements is decentrally located.

![Figure 6.4: The way the IT infrastructure is commonly deployed within a decentralized IT governance structure](image-url)
6.1.3 Federal IT organization

In a federal IT governance structure, the IT function is coordinated from the center, but the IT activities are divided between central and distributed units (see figure 6.5). The business units receive their required services from decentralized IT functions, while at the same time a corporate IT function provides group-wide IT services and exerts some degree of central leadership and control over the IT activities (Hodgkinson, 1996). Many different configurations of a federal structure are possible with different patterns of resource and responsibility distribution, so the federal structure has no standard topology or organizational chart. It can be adapted to align well with most forms of complex, multi-divisional organizations. The attempt of the federal IT structure is to capture the advantages of both the centralized and decentralized IT structure (see figure 6.6).

As figure 6.6 shows, the federal IT governance structure gives a good balance between the advantages of a centralized IT structure and a decentralized IT structure, resulting in economies of scope and standardization on the one hand, and in a flexible and effective alignment of IT with the needs of the business on the other hand. By cooperating, also the synergy and mutual learning will increase.

The corresponding disadvantage of the federal IT structure, is that it requires strong, collaborative leadership in both headquarters and individual business units. The CIO, in particular, must be an executive who can lead a complex technical organization as well as...
understand the business needs and strategies of each business unit. It also requires effective strategy, planning and resource allocation processes in the company so the corporate group is aware of the activities within the different business units and is able to gain potential efficiencies.

The way the IT infrastructure is commonly deployed in a federal IT governance structure is graphically represented in figure 6.7. As we can see there is a balance in responsibilities between the corporate IT center and two business units.

The corporate center is responsible for the firm-wide infrastructure, while the business units have the responsibility for their applications, although coordination is key to success.

6.2 The factors determining the choice of the IT governance structure

There are several factors that determine which of the three described IT governance structures fits best. We identified several factors of importance, namely: corporate governance structure, firm size, diversification mode, diversification breadth, exploitation strategy, absorptive capacity, organizational culture and IT heritage (Brown and Magill, 1994; Earl et al., 1996; Sambamurthy and Zmud, 1999). Although the corporate governance structure is the most dominant factor, other factors may also influence the IT governance structure. We will discuss those factors below and describe how they influence the IT governance structure.

6.2.1 Corporate governance structure

The corporate governance structure is a dominant factor in determining the choice of the IT governance structure (Sambamurthy and Zmud, 1999; Earl et al., 1996).

A centralized IT structure seems to fit best in a purely centralized organization. The corporate strategic management style in such a centralized organization can most probably be characterized as ‘strategic planning’ (Hodgkinson, 1996). This means that the corporate center works with the business units to develop strategy. It makes substantive contributions to strategic thinking, establishes extensive planning processes and may establish a corporate strategy or mission that guides and coordinates IT developments across the business units. Financial targets are considered to be less important than strategic objectives.

Equally a decentralized IT structure makes sense in a purely decentralized organization. The decentralized style is associated with ‘financial control’ (Hodgkinson, 1996). Here, the
corporate center’s influence is exerted mainly through the budget process. Not much emphasis is placed on corporate review of strategies, but instead, on close review of the budget.

The federal structure seems to offer the best fit in more complex organizations which corporate governance structure is also federal. The common style of the federal organization is the so-called ‘strategic control’ (Hodgkinson, 1996). The corporate center prefers to leave the initiative in the development of plans (applications) to the business units. Those plans are reviewed by the center to monitor the quality of strategic thinking, rather than for the center to direct strategy. This control process is an important influencing mechanism for the center. Targets are established for both strategic and financial objectives and managers are expected to meet those targets. Strategic control organizations combine moderate planning with tight control.

### 6.2.2 Firm size

The size of the firm is often associated with the centralization-decentralization component and thus with the organizational IT structure (Sambamurthy and Zmud, 1999). Smaller firms are likely to adopt a centralized IT governance structure in order to effectively manage and facilitate the coordination of interdependencies among the activities of individual business units.

In large firms, however, a significant amount of the information systems requirements tend to be customized to the needs of individual business or geographical units. As a result, large firms are associated with a decentralized IT structure in order to be more responsive to the individual needs of the subunits.

Firms of a medium size, which can combine these two elements, might well adopt a federal IT governance structure.

### 6.2.3 Diversification mode

The diversification mode refers to whether the enacted growth strategy of the organization is driven by internal expansion or external acquisition (Sambamurthy and Zmud, 1999). In case of internal expansion a company grows through its internal capabilities and knowledge. Such companies possess an inherent familiarity with their own business and can integrate and extend their administrative and operating IT systems quite easily. Companies pursuing internal growth, might well adopt the centralized IT governance structure.

Companies that grow through acquisitions often experience difficulties in their efforts to integrate those acquisitions within their own company and the costs and disadvantages of integrating all the IT might exceed the advantages of centralizing all the IT. Acquired units may have disparate IT infrastructures, different cultures and histories and also have their individual ways to deliver their service quality, which will be jeopardized when these units are integrated with the original company. Therefore, such organizations might well adopt the decentralized IT governance structure.

Organizations, considering an integration of both strategies, both internal growth and acquisition growth, might well adopt the federal IT governance structure.
6.2.4 Diversification breadth
The diversification breadth is about the degree of product-market relatedness of an organization (Sambamurthy and Zmud, 1999). Companies competing in related product-markets do have considerable similarities in their activities and as a consequence also in their IT infrastructure and applications. To exploit these commonalities and to leverage economies of scope, these companies are likely to address the centralized IT governance structure. When companies are characterized by unrelated product-markets, the business units usually possess distinctive IT needs and requirements. In comparison with the corporate staff, the decentralized staff is much better able to effectively apply IT in supporting the operating units’ activities and business strategies. Companies competing in unrelated product-markets are likely to adopt the decentralized IT governance structure. Companies operating in related and unrelated markets might well combine both worlds by adopting the federal IT governance structure.

6.2.5 Exploitation strategy
Exploitation strategy refers to the way companies can seek to exploit economies of scope, either through consolidation of firm-wide IT assets or through development of firm-wide partnerships (Sambamurthy and Zmud, 1999). When companies seek to exploit economies of scope through IT assets, the logic is that the dispersed IT assets across the organization have to be consolidated and managed through a corporate center. The dispersed IT assets are consolidated through unified systems, procedures and planning approaches and therefore the centralized IT governance structure is most likely in this case. Companies seeking to exploit economies of scope through partnerships are aware of the fact that knowledge and authority for IT based innovation is dispersed across the whole organization. Partnerships are required to integrate these dispersed locations of knowledge and authority by enabling the formation of trust among the business and IT managers so that they are willing to explore the IT innovation strategy. Such partnership relationships are more likely to prosper when the decision rights for significant IT activities are decentrally located close to the business. This way of exploiting the economies of scope by partnerships is most appropriate for a decentralized IT governance structure.

6.2.6 Absorptive capacity
Absorptive capacity is the level of IT knowledge possessed by business managers and information managers within the business units and their willingness to accept IT-decision making responsibilities (Sambamurthy and Zmud, 1999). If their experience and knowledge is limited, little IT-related absorptive capacity will be present within the business units. Such business and information managers lack an adequate understanding about IT and IT management practices and are unprepared and probably also unwilling to support IT decisions. These organizations will most certainly adopt a centralized IT governance structure.
However, when the business managers do have the necessary IT knowledge they might seek more authority for certain IT decisions, often related to the applications. Absorptive capacity is normally built over time through managers’ interaction with IT staff and their involvement in significant IT projects and initiatives. When this is the case, a decentralized or federal IT governance structure might fit best.

6.2.7 Organizational culture

The culture within an organization might also affect the IT governance structure (Brown and Magill, 1994). Following Schein (1992), one of the most prominent theorists of organizational culture, culture is here defined as: a pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.

Harrison (1972) distinguishes four different cultures, which have been further developed by Handy (1993), namely the (1) power culture, (2) the role culture, (3) the task culture and (4) the person culture.

(1) The power culture consists of a single source of power and highly depends on trust, empathy and personal communication for its effectiveness. There are few rules and control is exercised from the center through the selection of key personnel. The greatest strength of power cultures is their ability to react quickly, but their success largely depends on the abilities of the person or people at the center. It is strongly associated with a centralized structure.

(2) The organizing principles of the role culture are logic and rationality and its strength lies in its functions or specialties that are coordinated and controlled by a small group of senior executives. The role culture is dominated by rules, procedures and job descriptions and position power and to a lesser extent expert power are the main bases for the exercise of authority. The main problem with role cultures is that they can be slow to recognize and react to change.

(3) The task culture is a culture where power is merely based on expertise rather than position. This form of culture often develops in those organizations, which can focus on specific jobs, or projects to which teams may be assigned. Flexibility, adaptability, individual autonomy and mutual respect based on ability rather than age or status are the most important organizing principles here. However, such organizations cannot easily maximize economies of scale, do not usually build up great depth of expertise and are heavily reliant on the quality of the people involved.

(4) The person culture develops when a group of people decides that it is in their interest to organize on a collective rather than an individual basis. Such organizations exist solely for the individuals who comprise it and the individuals themselves decide on their own work.
allocation, with rules and coordinative mechanisms of minimal significance. Unlike other cultures in these organizations the individual has almost complete autonomy, influence is shared, and if power is to be exercised it is usually on the basis of expertise.

Two factors seem to characterize those four cultures (Handy, 1993), namely the degree of cooperation and the dispersal of power (IT governance structure). When the dispersal of power is high, an organization can be characterized as decentralized. When the dispersal of power is low, the organization is considered to be centralized. The consequence of a high degree of cooperation is that information is integrated, which makes sure that the flexibility of problem solving is enhanced. The two factors characterizing the four cultures, (1) the degree of cooperation and (2) the IT governance structure are shown in figure 6.8. When we summarize the four cultures from the most centralized one to the most decentralized one, these are: the power culture, the role culture, the task culture and the person culture.

### 6.2.8 IT heritage

The history of IT management and its related structure, IT heritage (Earl et al., 1996), is also of influence on the (evolution of) organizational IT structure. Crises, failures and bad experiences with a certain organizational structure, such as the loss of control, inefficiencies and increased costs, might lead to another structure. However, when a structure is associated with success and/or good experiences, the same structure organizational structure might well be maintained. Good experiences (or no bad experiences) with a centralized IT governance structure or bad experiences with either a federal or decentralized IT governance structure might result in a centralized IT governance structure. Good experiences (or no bad experiences) with a federal IT governance structure or bad experiences with either a centralized or decentralized IT governance structure might result in a federal IT governance structure. Good experiences (or no bad experiences) with a decentralized IT governance structure or bad experiences with either a centralized or federal structure IT governance might result in a decentralized IT governance structure.

The above eight factors and their influence on the IT governance structure have been summarized in the table below (table 6.1). Although their relative influence is less dominant than the corporate governance structure, they are worth mentioning because they might transform the IT governance structure of either a centralized or decentralized organization into a federal one and the federal structure into a centralized or decentralized one.
<table>
<thead>
<tr>
<th>Factor</th>
<th>Levels within the factors</th>
<th>IT governance structure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Corporate governance structure</strong></td>
<td>Centralized</td>
<td>Centralized</td>
</tr>
<tr>
<td></td>
<td>Federal</td>
<td>Federal</td>
</tr>
<tr>
<td></td>
<td>Decentralized</td>
<td>Decentralized</td>
</tr>
<tr>
<td><strong>Firm size</strong></td>
<td>Small</td>
<td>Centralized</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>Federal</td>
</tr>
<tr>
<td></td>
<td>Large</td>
<td>Decentralized</td>
</tr>
<tr>
<td><strong>Diversification mode</strong></td>
<td>Internal growth</td>
<td>Centralized</td>
</tr>
<tr>
<td></td>
<td>Internal and acquisition growth</td>
<td>Federal</td>
</tr>
<tr>
<td></td>
<td>Acquisition growth</td>
<td>Decentralized</td>
</tr>
<tr>
<td><strong>Diversification breadth</strong></td>
<td>Related markets</td>
<td>Centralized</td>
</tr>
<tr>
<td></td>
<td>Related and unrelated markets</td>
<td>Federal</td>
</tr>
<tr>
<td></td>
<td>Unrelated markets</td>
<td>Decentralized</td>
</tr>
<tr>
<td><strong>Exploitation strategy</strong></td>
<td>Firm-wide consolidation of assets</td>
<td>Centralized</td>
</tr>
<tr>
<td></td>
<td>Both firm-wide consolidation of assets and partnerships</td>
<td>Federal</td>
</tr>
<tr>
<td></td>
<td>Firm-wide partnerships</td>
<td>Decentralized</td>
</tr>
<tr>
<td><strong>Absorptive capacity</strong></td>
<td>Low</td>
<td>Centralized</td>
</tr>
<tr>
<td></td>
<td>Medium-High</td>
<td>Federal</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>Decentralized</td>
</tr>
<tr>
<td><strong>Organizational culture</strong></td>
<td>Power culture</td>
<td>Centralized</td>
</tr>
<tr>
<td></td>
<td>Role culture</td>
<td>Centralized-federal</td>
</tr>
<tr>
<td></td>
<td>Task culture</td>
<td>Federal-decentralized</td>
</tr>
<tr>
<td></td>
<td>Person culture</td>
<td>Decentralized</td>
</tr>
<tr>
<td><strong>IT heritage</strong></td>
<td>Good experiences with the centralized IT governance structure or bad experiences with either the federal or decentralized IT governance structure</td>
<td>Centralized</td>
</tr>
<tr>
<td></td>
<td>Good experiences with the federal IT governance structure or bad experiences with either the centralized or decentralized IT governance structure</td>
<td>Federal</td>
</tr>
<tr>
<td></td>
<td>Good (or no bad) experiences with the decentralized IT governance structure or bad experiences with either the centralized or federal IT governance structure</td>
<td>Decentralized</td>
</tr>
</tbody>
</table>

*Table 6.1: The factors affecting the choice of the IT governance structure*
6.3 The location of the roles within the retained IT organization

As we have seen, there are three possible IT governance structures, the centralized, the decentralized and the federal one. This section will describe where the retained roles are most likely located in each of the three different structures.

In a centralized IT governance structure almost all roles are located within the corporate center. The CEO, CFO, CIO and legal officer are always centrally located. Users are most of the time both centrally and decentrally located, while business managers are decentrally positioned. As the business units do not have any responsibility for IT, the information manager (within the business units) probably does not exist. His role has to be fulfilled by the corporate center and more precisely by the relationship manager. The business analysts, who are normally positioned within the business units, will now be within the corporate group. All the other roles are also centrally located.

The decentralized IT governance structure looks differently and most roles will be located within the business units or divisions, although even in a highly decentralized IT organization, a small corporate IT group should always be left in place. There are several reasons why this is necessary. First of all, the organization benefits from a well-coordinated sharing of business plans, organizational processes, research, technical standards and disaster recovery. Central staff should be chartered to facilitate agreements among decentralized groups on standards and policies wherever consistency and standardization is of value to them. Economies of scale can only be gained when a central group has an overview of the required IT services and resources. The corporate group is responsible for the (often small) firm-wide infrastructure, but also for certain applications, which can be integrated. Procurement and a contract management role have to be retained in the corporate center to act as an informed buyer and to manage the contract. Because the firm-wide infrastructure is often relatively small, it might well be an easy manageable contract, implying that the CIO and the contract manager role sometimes can be integrated into one individual person. The business units might also have a contract and service manager to manage the local and often larger contracts and SLAs. Roles relating to architecture, IT procurement and financial control can well be decentrally located in a decentralized IT governance structure. The project managers, business analysts and information managers are by definition decentrally located in this structure. Because the information manager is responsible for contract facilitation, the relationship manager becomes redundant. Legal advice and assistance with organizational issues is a central task. Without it, the organization will pay all the costs of multiple learning curves.

To the extent that decentralized business units can share solutions, they can form a so-called shared service center. Shared service centers are offices that handle multiple (administrative) support functions for different business units and can be created to spread the costs of solutions, to avoid expensive reinvention and to improve collaboration. Since these shared service centers rarely form on their own accord, it is the task of the corporate staff to facilitate the formation and operation of shared service centers. Figure 6.9 shows how these shared service centers can be designed.
Figure 6.9: Different forms of consolidation

The federal IT governance structure does have many similarities with the centralized IT governance structure. The main difference is that the business units have the main responsibility for the applications. The information manager and service manager roles are most probably integrated, because the information managers monitor the SLAs relating to applications. When there are more centrally located service and contract managers, a relationship manager can be put in place to reduce the contact points for the business managers. Business analysts are almost by definition decentraly located, within ‘the business’. The table below (table 6.2) gives an overview of the location of the different roles within the three different IT governance structures.

<table>
<thead>
<tr>
<th>Area</th>
<th>Roles</th>
<th>Location of the roles within the organization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Centralized structure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Central</td>
</tr>
<tr>
<td>Business area</td>
<td>Business manager</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Information manager</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Business analyst</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>User</td>
<td>X</td>
</tr>
<tr>
<td>Contract management area</td>
<td>Contract manager</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>IT financial controller</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>IT procurement officer</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Legal advisor</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Relationship manager</td>
<td>X</td>
</tr>
</tbody>
</table>
Table 6.2: An overview of the location of the different roles within the three different IT governance structures

<table>
<thead>
<tr>
<th>Leadership area</th>
<th>CEO</th>
<th>CFO</th>
<th>CIO</th>
<th>IT director</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Project area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Service area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Technical area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

6.4 The recommended structure: the federal IT governance structure

The ‘right’ IT governance structure depends, as we have seen, on different factors although the corporate governance structure is the most dominant one. Other factors are less dominant than the corporate governance structure, but are worth mentioning because they might transform the IT governance structure of either a centralized or decentralized organization into a federal one and a federal organization into a centralized or decentralized one. Figure 6.10 shows this graphically. Also shown in this figure are the results of the interviews we conducted with the five organizations, which confirm the fact that the corporate governance structure is the most dominant factor.

Figure 6.10: The relation between the corporate and IT governance structure

As we can see the Sociale verzekeringbank (SVB) does have the most centralized IT governance structure, while CSM does have the most decentralized IT governance structure.
Although for a strictly centralized or decentralized organization, the centralized or decentralized IT governance structure might well be the best fit, there seems to be a trend towards the federal IT governance structure.

Rockart et al. (1996) confirm this trend by describing their *eight imperative*, which is called ‘redesigning and managing the federal IT organization’. It is about the fact that IT organizations struggle for decades with the centralization-decentralization issue and that the location of the roles and responsibilities together with their decision-making power is critical. His research suggests that, increasingly, these responsibilities are being distributed to both the central and decentral part of an organization. A central unit can assist the business units in performing specialized activities. The different business units often make the same mistakes with specifying the requirements, evaluating reactions on tenders, negotiating contracts and managing the supplier. This is mainly due to the fact that business units will only outsource one or a few activities a year and do not get the chance to become familiar with outsourcing management. A central unit can obtain experience and is therefore better able to perform specialized activities such as market research, tendering, negotiating, contracting and assessing the quality of the service(s) delivered. The central unit assists the business units, while the business units themselves determine the functionality of the systems and activities they outsource (Looff, 1997).

The federal IT governance structure allows for a significant measure of autonomy at the local level in business organizations (specialization), but also the "scale" which is necessary for organization-wide planning, resource allocation, centralized purchasing and other benefits (integration). Case studies described in the literature by Lacity and Willcocks (2001) and Pinnington and Woolcock (1995) confirm this trend make use of a federal IT governance structure, consisting of a centralized contract management team to manage the supplier and a decentralized user-supplier liaison.

We can show the suitability of the federal IT governance structure for the retained IT organization graphically by combining two factors, namely: (1) the need for integration and (2) the need for specialization (see figure 6.11). These two factors seem to incorporate almost all the factors we mentioned in section 6.2. When the need for specialization is low, the centralized structure seems to fit the best. When the specialization need is high and the integration need low, then the decentralized structure is preferred. However, when both the integration and specialization needs are high, the federal model is the ideal one.

Often, those two dimensions, the need for specialization and integration, are already incorporated into the corporate governance structure of an organization. Because the retained IT organization is relatively small, has a big responsibility

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**Figure 6.11: The positioning of Handy’s four cultures**

<table>
<thead>
<tr>
<th>Need for Integration</th>
<th>Centralized Structure</th>
<th>Federal Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Centralized Structure</td>
<td>Decentralized Structure</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>

**Need for Specialization**
there is a high need for both integration and specialization. The recommended structure therefore is the federal one. In appendix IV the federal structure has been presented, with all the roles involved.

Moving from the status quo to an effective federal organization, however, is not easy, especially in formerly decentralized organizations. A decentralized organization that wants to ‘federalize’ will be confronted with business managers within the business units, who are usually reluctant to give up control of IT assets, because they believe that they are best able to manage the priorities of the IT organization and control the cost of providing IT services through continuing direct control of the IT resources. Granting control to a central IS organization is usually viewed with suspicion and many business managers don’t believe that they will receive responsive services and that IT costs will not be shared in an equitable, affordable manner. Although other stakeholder groups, such as corporate management, business unit IT staff and the CIO are involved in the centralization process, the business managers are key. If they believe that centralization is in their interest, they can lobby a reluctant or disengaged senior business management to support the effort. They can also impel the business unit’s IT organization to accept the necessary changes (Gerrard and Younker, 2003). However, once a federal structure is in place, it can be easily modified as the requirements of the client organization change and technological learning evolves.

6.5 Summary
The location of the different retained roles depends on the choice of the IT governance structure. There are three possible structures: the centralized, the decentralized and the federal IT governance structure. Eight factors have been distinguished that determine this choice. The main factor is the corporate governance structure, although there are other factors, which might affect the centralization-decentralization component. These factors are, besides the corporate governance structure: (1) firm size, (2) diversification mode, (3) diversification breadth, (4) exploitation strategy, (5) absorptive capacity, (6) culture and (7) IT heritage. It turns out that there is a trend towards the federal structure and this is therefore the recommended one, as this structure integrates the advantages of both the centralized and decentralized IT governance structure. Moreover, the retained organization has to be small with as few staff as possible. High integration of activities, combined with high specialization provides the best result. This can be realized with the federal IT governance structure.
The Retained Organization after IT Outsourcing

7 The Relevance of the Roles

This chapter will concentrate on the different factors influencing the relevance of the retained roles. We already argued that eight capabilities, covering six different areas, should always be kept in-house, whatever the circumstances may be. However, there are many factors, which influence the relevance of those capabilities in some way or another. In the first section the factors related to the client organization are described, while in the second section the factors related to the outsourced IT services are detailed.

7.1 Factors relating to the client organization

The relevance of a certain role is important in order to determine which and how many individual(s) can fulfill the role. When the relevance of a certain role increases, it implies that either a higher quality of the individual fulfilling that role is required, or that more individuals are necessary to fulfill that specific role. When the relevance of a role decreases, it implies that this role might well be integrated with (an)other role(s), which can all/both be fulfilled by one individual. The question which roles can be integrated is answered in the next chapter. Looff (1997) mentions several situational factors which influence the variable ‘control’, where control refers to whether the client can keep control over the IT function and supplier after IT outsourcing. Lacity and Willcocks (2001) also identify several factors, which influence the relative importance of the already described nine capabilities. We distinguished seven factors relating to the client organization, namely: (1) the IT outsourcing strategy, (2) the amount of staff involved, (3) the IT governance structure, (4) the contract value, (5) the contract detailedness, (6) the complexity of business processes and (7) the duration of the contract.

7.1.1 IT outsourcing strategy

The IT outsourcing strategy affects the outcome of the outsourcing venture in terms of outlining the client’s objectives. This implies that depending on the outsourcing strategy, the roles and procedures have to be put in place to ensure that the objectives are met. DiRomualdo and Gurbaxani (1998) found that poor outcomes are often due to unclear strategic intentions and not aligning these with the supplier. Moreover, the strategic intent of the relationship can be at a too high level to inform local operations, which might also negatively influence the expected outcome of the outsourcing relationship (Kern and Willcocks, 2001). By combining the financial, business and technical objectives mentioned in chapter 2, we are able to create a model with IT outsourcing strategies (see figure 7.1).
The strategic intent of an organization in terms of expectation(s) from IT outsourcing, can be divided into focusing on achieving business value or on achieving IT efficiency, as shown on the vertical axis. The way this strategic intent can be achieved is by the provided technical capabilities of the supplier. The horizontal axis shows that the client can gain access to technical resources that form a resource pool not otherwise available, or can gain a distinctive leadership by benefiting from the best available technical knowledge and resources. The figure on the right shows those four different IT outsourcing strategies (Kern et al., 2002).

1. The most common strategy by far is ‘technical supply’, where the objective is to achieve cost efficiencies by hiring internal resources. This specific strategy does have the least influence on the relevance of the retained roles, as it is the least demanding strategy. Every retained IT organization has to be equipped to handle the control implications of this strategy. However, because of the focus on cost reduction, the importance of the financial controller, the contract manager and the service manager will increase. An architect has to ensure that the quality of the technology is sufficient and that the client gets the best service(s) at the lowest possible costs, also taking into account future technological changes.

2. The second strategy is called ‘technology partnering’, where the focus is on cost reduction by using world-class technology. By means of innovation, development, standardization and risk sharing, the IT efficiency can be increased. Because this specific strategy requires sufficient technical knowledge, the relevance of the architects will increase. The roles of the contract manager and service manager will also get more important as it becomes more critical to monitor the effects of the specific technological innovations and changes.

3. The third strategy is ‘business service’. Here the objective is to improve the service to the business, not only by delivering more precisely on changing business requirements, but also by the involvement of the supplier in business improvement projects. The importance of the information manager, the business manager and the business analysts increases, as they represent the business area. In a centralized and also in a federal IT governance structure the relationship manager is important. Because of the critical entwinement with the business and the possible occurrence of problems, the legal adviser is important to minimize the (financial, technical and business) risks.

4. The fourth and final strategy is characterized as ‘strategic alliance’, which is the most radical and demanding of all four strategies. Both the supplier and the client work together to
make offerings to the external market place in order to improve the business value by using world-class technology. A very well staffed and skilled retained organization has to be put in place in order to manage the supplier. The bigger risks and the criticality of the deal make the responsibility for the CEO, CFO, CIO and the IT director larger. Technical knowledge as well as business knowledge is of extreme importance in this case, implying that the architect roles and the business roles (business manager, information manager and business analyst) increase in relevance. Contract management and SLA monitoring will most likely become more difficult and therefore the importance of the contract manager and service manager increases. Because of the critical entwinement with the business and the possible occurrence of problems, the legal adviser is important to minimize the (financial, technical and business) risks.

7.1.2 Amount of staff involved
The amount of staff involved in the outsourcing deal is also of influence for the relevance of certain roles. This amount can be interpreted in two ways, although their influence continues to be the same. First, the amount of staff involved can be interpreted as the amount of internal people (users) affected by IT outsourcing. The size of the client organization will increase the complexity of the deal in terms of service provisions, operations and organizational arrangements and influences the level of control between the client and supplier (Kern and Willcocks, 2001).
Secondly, the amount of staff involved can relate to the people, which have to be transitioned to the IT supplier. The more people are transitioned, the more control is needed to monitor the transitioned tasks.
The amount of staff involved will have a positive effect on the monitoring roles, the contract manager, the service manager (centrally located), the information manager (in the business units) and the financial controller. The CIO, the IT director and the legal adviser become more important because of the increased risks involved in outsourcing deals of bigger size.

7.1.3 IT governance structure
The IT governance structure, discussed in the former chapter, also affects the relevance of certain roles. We distinguished three different structures, (1) the centralized, (2) the federal and (3) the decentralized IT governance structure.

1. In the centralized IT governance structure, the responsibility and thus the relevance of the business roles decreases. It is quite likely that no information manager exists and that the role of the business manager with regard to its responsibility for IT is minimized. When no information manager exists and when there are more service managers within the retained organization, a relationship manager will be appointed as the single contact point for the business managers. The architect roles are important for standardization, which is important in a centralized IT organization.
2. The key characteristic of a federal IT governance structure is the shared responsibility between the centralized and decentralized component of the retained IT organization. Well-defined procedures and processes to ensure the coordination are crucial, which make the role of the CIO and IT director more important as they have the responsibility to arrange this. The information manager might well have the responsibility for the applications and for monitoring the supplier, increasing its importance. Because the information manager is in place, the relationship manager probably does not exist. The contract and service manager are the bridge between the central group and the decentralized units and are thus important.

3. The decentralized IT governance structure has put most responsibilities within the decentralized units of the organization. The corporate group is small and an IT director will most probably not be available, as this role can be fulfilled by the CIO, who has to ensure also the coordination between the different decentralized units. When businesses are physically and/or logically dispersed, those multiple locations increase the need for the relationship-building capability, which is the business managers’ and especially the information manager’s responsibility.

7.1.4 Contract value
The need for management resourcing to handle the deal increases proportionally with the contract value, the size of the outsourcing deal in terms of money (Kern and Willcocks, 2001). According to Barthélemy (2001) the costs of IT outsourcing, the transition costs, the costs for managing the IT outsourcing effort, the additional service costs and the post IT outsourcing transition costs, mainly depend on the size of the contract value. This implies that more control is needed, not only from the contract manager, the service manager and the financial controller, but also from the legal advisor to mitigate the risks as much as possible. Related to this is the increased relevance of the CIO and IT manager, who have to analyze the supplier market to ensure that the client’s dependency diminishes. The costs of outsourcing the IT activities to another supplier or insourcing the activities again become higher with an increase of the contract value and more control is required.

7.1.5 Contract detailedness
It turns out that interactions negatively influence contracts (Kern and Willcocks, 2001). Through interactions, exchange content changes and adapts over time to requirements, and as these change, contracts become unrepresentative and incomplete. New norms may develop when the contracts become less representative. It is important to have skilled contract and service managers to manage and maintain the existing contract(s), as unclarity about the exchange content makes it more difficult to control the vendor. Moreover, they have to ensure that any changes are documented so that they can be integrated at a future contract alignment or update stage.
The IT financial controller and legal advisor might have a bigger responsibility in order to get a better understanding of the contractual implications. The IT procurement officer does have
expertise about the content of the contract, which is important when the contract itself is detailed and complex.

7.1.6 Complexity of the business processes
The complexity of the business processes is determined by the number of relationships between the systems affected by the delivered services and the degree of formalism or programmability of the systems (Looff, 1997). The higher the complexity and interconnectedness of business processes, the more difficult it is for the client to keep control, as there is a critical need for coordination, integration and standardization. The business managers, information managers and business analysts increase in relevance as they possess the knowledge and expertise about the business processes, which is critical for the successful alignment with IT. The architects are responsible for the technical translation of the business needs. The contract, service and relationship managers are the contact points for the business and are therefore important. The structure and governance of the IT processes and procedures are the responsibilities of both the CIO and the IT director.

7.1.7 Contract duration
The longer the contract period, the more important it will be to have well-functioning and efficient relationships (Kern and Willcocks, 2001). Any disruption of the stability of the relationship at the micro level can have macro consequences in jeopardizing the efficiency and the stability of the overall arrangement. A key factor noted as destabilizing operations and relations are changes in key managers on either side. Realignment, renegotiation or rebidding of contracts are also key destabilizing factors, which probability increases proportionally with the contract duration. Almost all roles will increase in importance.

In the table below (table 7.1) we determine how the above factors influence the relevance of the different retained roles. A cell marked with a + (plus sign) denotes a positive relationship, which means that a high value of the factor will result in a higher relevance of the specific role. A – (minus sign) indicates a negative relationship, where a higher value of the factor means a lower relevance of the specific role. A higher relevance of a role means that such a role has to be fulfilled either by a better skilled individual or by more individuals. A lower relevance of a role means that it might be possible to integrate that specific role with another one, without jeopardizing the quality of the role.

<table>
<thead>
<tr>
<th>Retained roles</th>
<th>IT outsourcing strategy</th>
<th>Amount of staff involved</th>
<th>IT governance structure</th>
<th>Contract value</th>
<th>Contract detailedness</th>
<th>Complexity of business processes</th>
<th>Contract duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business manager</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
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7.2 Factors relating to the IT service(s)

The factors we will now discuss are related to the IT services that are outsourced. Certain aspects are already incorporated in the factors related to the client organization, such as the amount of IT services outsourced, which is strongly related to the contract size. We will concentrate on the different characteristics of the outsourced IT services and their consequences for the relevance of the retained roles. We distinguished seven factors relating to the IT service(s): (1) the kind of IT service, (2) the complexity, (3) the criticality, (4) the unspecifiability, (5) the immeasurability, (6) the uncertainty and (7) the specificity.

7.2.1 Kind of IT service

As we already described in chapter 2, IT outsourcing can be divided into infrastructure outsourcing and application outsourcing. Infrastructure outsourcing is in all IT governance structures most definitely the main responsibility of the corporate group, while the responsibility for the applications in a federal or decentralized IT governance structure is located within the business area (in a centralized IT governance structure all the responsibility is centralized).

For application outsourcing, the relevance of the business manager, the information manager and the business analysts will increase, while for infrastructure outsourcing, their importance will be not so influential. For infrastructure outsourcing, the architects and IT procurement officer are most valuable.

7.2.2 Complexity

Complexity refers to the variety of services and the multiplicity of exchanges between the client and supplier. When the variety of the IT activities and projects outsourced and the exchanges increase, so will the complexity of the relationship. An increase of complexity might well result in an increase of the number of hierarchical levels, as well as the number of specialist functions and the standardization of procedures (Kern and Willcocks, 2001). More complexity leads to more intensive interorganizational interactions and the greater the complexity the more management control is needed as it requires access to flexible resources to alleviate pressures as they arise (Kern and Willcocks, 2001). Related to complexity is...
heterogeneity, which is defined as the variety of the types of IT components and services that are in use or are needed (Looff, 1997). The higher it is, the more specific expertise about these different IT components and services is necessary to keep control over the IT supplier. The CIO and the IT director become more important, because they have to make sure that enough staff is available to manage the supplier and they have to ensure that structures become formalized and procedures become standardized as much as possible to improve the coordination. The necessary increase of coordination also influences the decentralized roles of the business managers, information managers and business analysts. They will most likely get more responsibility in order to increase the efficiency and to benefit from their expertise. The IT director is the contact point for the information managers in aligning the IT strategy with the business strategy. The architect roles also rise in relevance as they have the responsibility for standardization and integration of the variety of IT activities. The service manager and contract manager roles have to cope with the complexities within the contract(s) and SLAs and their roles also aggravate. The legal adviser has to ensure that a high complexity does not result in financial, business and/or technical risks.

7.2.3 Criticality

The criticality is the degree to which the continuity and availability of systems are essential to the client (Looff, 1997). This can be determined by analyzing how much of the revenues and business processes depend on the system and how long the systems can be down before the organization would face serious consequences. Related to this is the competitiveness of the IT service(s), which involves whether the systems or activities distinguish the organization from its competitors (Looff, 1997). Increase of both the criticality or/and the competitiveness results in higher control in order to diminish the risks and vulnerability.

These two factors can be arrayed in a simple matrix, as shown in figure 7.2.

The two extremes in this figure are relatively straightforward. When the potential for both criticality/competitiveness and strategic vulnerability is high, the company needs a high degree of control. Close control of the IT service quality, the architecture and the technology through contracts and even financial support is essential. The contract and service managers, the financial controller, the procurement officer and the architects become more relevant to manage and monitor the supplier. Also strategic management (CEO, CFO, CIO, IT director) will get more involvement in the outsourcing venture as the services are directly or indirectly connected to the core business.

![Figure 7.2: Criticality and competitiveness versus strategic vulnerability (based on Quinn & Hilmer, 1994)](image-url)
7.2.4 Unspecifiability
The unspecifiability relates to the difficulty to specify the functional and technical requirements in enough detail and in advance (Looff, 1997). The higher the unspecifiability, the more difficult it becomes to determine whether the supplier performs according the predefined values. The contract manager and service manager have to make sure that the quality of the services is guaranteed, while information managers, business analysts and architects have the responsibility to specify the new and probably changing functional and technical requirements. Legal advisers can diminish the (legal) risks of undesirable consequences of unspecifiability.

7.2.5 Immeasurability
The immeasurability is whether it is difficult for the client to determine objectively and relatively easily whether the delivered services meet the predefined requirements (Looff, 1997). The higher the immeasurability, the more control is needed from the client organization. This means that the especially the IT procurement officer, the contract manager, the information manager and the service manager roles are important. They have to define the measurements, which make it possible to monitor the supplier. The financial controller has to ensure that this immeasurability does not have negative financial consequences, which is not always immediately transparent.

7.2.6 Uncertainty
The factor uncertainty can be divided into four categories, which are often related to each other: (1) volume uncertainty, (2) technical uncertainty, (3) functional uncertainty and (4) supplier uncertainty. Volume uncertainty is the uncertainty of information about future changes in the use of the required volume of resources. Technical uncertainty is the uncertainty about future technological developments and the consequences for the organization, while functional uncertainty is the uncertainty about the functional requirements for IT (Looff, 1997). Supplier uncertainty relates to uncertainty about the supplier, such as the supplier’s financial position, the supplier’s barriers to entry and exit, supplier concentration etcetera.

The higher the uncertainty, the more difficult it is to keep control over the supplier. It can give rise to opportunism of the supplier making the informed buyer role especially important for procurement, contract management and financial control. But also the technical architects, the information managers and the business analysts are increasingly relevant, as they are able to judge which necessary changes are required. The strategic management (CIO, IT director) is responsible for scanning the supplier market, to be sure that the client can quite easily change from supplier to supplier, when required.

7.2.7 Specificity
Specificity is the degree to which a system is specific for the client and needs investments by the supplier that can not be re-used for other clients or activities (Looff, 1997). There are different categories of specificity: (1) physical asset specificity, (2) human asset specificity
and (3) site specificity. Physical asset specificity refers to how specific the IT resources must be, such as tools, hardware and software configuration. Human asset specificity is the amount of learning, specialization, learning on the job and knowledge of the client organization’s processes that is required. Site specificity refers to the location of the assets in a particular area and can be present if for example, hardware needs extensive provisions, such as air conditioning and physical security measures. Specificity is related to innovativeness, the degree to which the IT activities required, are new, either to the client, to the supplier, or to both. High specificity can give rise to opportunism of the supplier, making procurement, contract management and financial control especially important. Also the technical architects and information managers are increasingly relevant, as they are able to judge which necessary changes are required. The CIO and IT director are responsible for scanning the supplier market, to make sure that the client can quite easily change from supplier when required.

In table 7.2 we determine how the above factors influence the relevance of the different retained roles. A cell marked with a + (plus sign) denotes a positive relationship, which means that a high value of the factor will result in a higher relevance of the specific role. A – (minus sign) indicates a negative relationship, where a higher value of the factor means a lower relevance of the specific role. A higher relevance of a role means that such a role has to be fulfilled either by a better skilled individual or by more individuals. A lower relevance of a role means that it might be possible to integrate that specific role with another one, without jeopardizing the quality of the role. The question which roles can be integrated is answered in the next chapter.

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<tr>
<th>Kind of IT service</th>
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Table 7.2: Overview of the service factors influencing the relevance of the retained roles
7.3 Summary
This chapter focused on the different factors influencing the relevance of the retained roles. A distinction has been made between factors relating to the client organization and factors relating to the IT services. The factors related to the client organization are (1) the IT outsourcing strategy, (2) the amount of staff involved, (3) the IT governance structure, (4) the contract value, (5) the contract detailedness, (6) the complexity of business processes and (7) the duration of the contract.

The factors related to the outsourced IT services are (1) the kind of IT service, (2) the complexity, (3) the criticality, (4) the unspecifiability, (5) the immeasurability, (6) the uncertainty and (7) the specificity.

The relevance of the role is important in order to determine which and how many individual(s) can fulfill the role. When the relevance of a certain role increases, it implies that either a higher quality of the individual fulfilling that role is required, or that more individuals are necessary to fulfill that specific role. When the relevance of a role decreases, it implies that this role might well be integrated with (an)other role(s), which can all/both be fulfilled by one individual. It turns out that all the factors, except the IT governance structure, do have a positive relationship, which means that a higher value of the factor will result in a higher relevance of a specific role. This can be explained by the fact that even the simplest retained organization should already be of high quality and can only become more ‘relevant’ and critical when certain factors are present.
8 Design Method

The purpose of this chapter is to give an overview of the steps and actions, which have to be taken in order to successfully implement the retained organization after IT outsourcing. Although this chapter does not contribute to resolving the main research question, it is used to integrate the research information in a logical and structured way. Each section will describe one single step, as shown in the figure below.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
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<tbody>
<tr>
<td>Identify the IT portfolio, the objectives and the risks involved</td>
<td>Design the central and/or decentral responsibility structure</td>
<td>Determine the relevance of the roles</td>
<td>Match the ‘right skilled’ people with the roles</td>
<td>Implement and evaluate the retained IT organization</td>
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Chapter 2, 3, 4, 5 | Chapter 6 | Chapter 7 | Chapter 8 | Chapter 1-9 |

Figure 8.1: The steps necessary to successfully implement the retained organization

8.1 Step 1: Identify the IT portfolio, the objectives and the risks involved

In this step, the IT activities that are outsourced have to be identified, including the dependencies between these IT activities, in order to distinguish potential inefficiencies within the process, but also to determine the objectives and to identify the potential risks and risk factors. This includes the grading of these risks in terms of likelihood of occurrence and their seriousness of impact on business operations. This means that each risk has to be described and how it will affect the business.

For complex IT operations such as IT outsourcing, a number of meetings or brainstorming sessions can be organized, involving the supplier manager, the contract manager, the information or business manager(s), specialist personnel (technical, legal, etc.) and other key stakeholders. It may also be advisable to use an outside facilitator for this.

The retained IT organization is the primary source in mitigating the identified risks and risk factors and to accomplish this, it is responsible for:

1. Providing knowledge and expertise to keep organizational as well as intellectual control over the supplier and to stay flexible in the face of unexpected but inevitable technical and business change;
2. Monitoring the supplier to avoid the escalation of costs and to be sure that the services meet the predefined requirements;
3. Managing the relationship, communicating and coordinating with both the external supplier and the internal business and IT staff in order to clarify both parties’ objectives and to leverage the relationship for business and mutual advantage;
4. Maintaining the power balance between the client and the supplier by creating incentives.

8.2 Step 2: Design the central and/or decentral responsibility structure

In this step, the IT governance structure has to be determined in order to position the roles within the retained IT organization. There are several factors, which influence how the
The retained organization has to be structured. There are three options available, (1) a centralized retained organization, (2) a federal retained organization or (3) a decentralized retained organization. The main factor influencing this decision is the corporate governance structure, although there are other factors, which might affect the centralization-decentralization component. These factors are, besides the corporate governance structure: (1) firm size, (2) diversification mode, (3) diversification breadth, (4) exploitation strategy, (5) absorptive capacity, (6) culture and (7) IT heritage. Chapter 6 describes the effect of these factors. This step finally results in decisions about where the roles and their related responsibilities have to be located within the organization: centralized, decentralized, or federal, with a shared centralized and decentralized responsibility.

In a centralized structure, all the roles and responsibilities are located within a corporate center. In a decentralized structure, on the contrary, most roles are spread over the different business units. Some central control may well be present, in the form of a CIO, responsible for the firm-wide infrastructure, but the responsibility for local IT infrastructure and applications is with the business units. A shared center may be a possibility to integrate certain activities between the different business units, in order to gain cost efficiencies. In a federalized IT governance structure the responsibilities are shared, where the responsibility for the infrastructure is with the corporate group and the responsibility for the applications is within the business units.

8.3 Step 3: Determine the relevance of the roles

When the structure is defined, it becomes possible to determine the relevance of the different roles. Their relevance is influenced by several factors.

We can distinguish the factors relating to:

- The client organization, consisting of (1) the IT outsourcing strategy, (2) the amount of staff involved, (3) the IT governance structure, (4) the contract value, (5) the contract detailedness, (6) the complexity of business processes and (7) the duration of the contract.
- The IT service, consisting of (1) the kind of IT service, (2) the complexity, (3) the criticality, (4) the unspecifiability, (5) the immeasurability, (6) the uncertainty and (7) the specificity.

Chapter 7 shows how the different roles are affected by the above factors. These factors finally lead to conclusions about whether certain roles can be integrated or have to be duplicated, depending on their relevance. In table 8.1, an overview is given about which roles can be integrated. He fact that one role can be combined with another, does not imply that this is also the case for the other way around. To give an example: the CIO can also fulfill the contract manager role, but the contract manager cannot be combined with the CIO role. It is evident that a CIO combining the CIO role and the contract manager role is named as CIO and not as the contract manager. In some cases the role of the service manager can be integrated with role of the contract manager. The essential difference between the two is that the service manager is concerned with the detailed aspects of service delivery to the user, but
not with contracts. The contract manager on the contrary is concerned with the supplier performing their obligations under the contract and is not with the services being delivered. When it is just a small contract (e.g. factor: contract size), these roles can be combined.

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<th>Business manager</th>
<th>Information manager</th>
<th>Business analyst</th>
<th>Contract manager</th>
<th>IT financial controller</th>
<th>IT procurement officer</th>
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</table>

Table 8.1: The integration of the different roles

There are also certain roles that can be outsourced themselves. Assuming that the appropriate supplier is available and that this supplier out-performs its in-house equivalent, there are a few roles that can be outsourced to a third party. These are:

- **Legal advisor**: This role can be outsourced to a third party. By defining performance criteria, including a 24-hour response time, this role can be even better than many in-house services.
- **Consultant**: The consultant can bring in its expertise in all the different aspects of IT outsourcing.
- **Auditor**: By definition, this role is external.

The challenge is to retain as few retained staff as possible. Not only to diminish costs, but also to increase the effectiveness of the retained organization. Too much staff will result in internal and external inefficiency, which will increase risks. The internal inefficiency is caused by unclear overlaps of responsibilities, resulting in slow coordination. The external inefficiency is due to too many contact points with the supplier. The less contact points, the more effective and efficient the communication and cooperation (Looff, 1997; Kern and Willcocks, 2001). Figure 8.3 shows the criticality of the amount of retained IT staff.
So, in order to function as efficient as possible and to be sure that the overhead is minimized, as few staff as possible has to be retained, but of very high quality.

8.4 Step 4: Match the ‘right skilled’ people with the roles

When the former three steps are executed, it becomes possible to match the ‘right skilled’ individuals with each specific role. In the table below the various roles are listed, together with their recommended technical, business and interpersonal skills.

<table>
<thead>
<tr>
<th>Capability</th>
<th>Technical Skills</th>
<th>Business Skills</th>
<th>Interpersonal Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business manager</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Information manager</td>
<td>Medium/High</td>
<td>Medium/High</td>
<td>High</td>
</tr>
<tr>
<td>Business analyst</td>
<td>Medium/High</td>
<td>High</td>
<td>Medium/High</td>
</tr>
<tr>
<td>Contract manager</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>IT financial controller</td>
<td>Low/medium</td>
<td>Medium/High</td>
<td>Medium/High</td>
</tr>
<tr>
<td>IT procurement officer</td>
<td>Medium/High</td>
<td>High</td>
<td>Medium/High</td>
</tr>
<tr>
<td>Legal advisor</td>
<td>Low/medium</td>
<td>Low/medium</td>
<td>High</td>
</tr>
<tr>
<td>Relationship manager</td>
<td>Medium/High</td>
<td>Medium/High</td>
<td>High</td>
</tr>
<tr>
<td>CEO</td>
<td>Low/medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>CFO</td>
<td>Low/medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>CIO</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>IT director</td>
<td>Low/medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Project manager</td>
<td>Medium/High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Service manager</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Systems architect</td>
<td>High</td>
<td>Low/medium</td>
<td>Medium/High</td>
</tr>
<tr>
<td>Application architect</td>
<td>High</td>
<td>Low/medium</td>
<td>Medium/High</td>
</tr>
<tr>
<td>Technical architect</td>
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<td>Low/medium</td>
<td>Medium/High</td>
</tr>
<tr>
<td>Data architect</td>
<td>High</td>
<td>Low/medium</td>
<td>Medium/High</td>
</tr>
</tbody>
</table>

As we already said the retained organization is an efficiently and coherent functioning organization of interrelated activities and every change may disturb the capability balance, dramatically decreasing its efficiency and effectiveness. Therefore the roles within the relatively small retained IT organization should be high performers.

8.5 Step 5: Implement and evaluate the retained IT organization

When all former steps are completed, the complete operational infrastructure of retained roles, responsibilities, processes and procedures can be established. After some time, it may well be
important to analyze whether the retained organization is functioning as efficiently and
effectively as was expected. When this is not the case, or when problems occur relating to the
staffing of the organization, changes have to be considered.

8.6 Summary

Five steps have been identified to successfully implement the retained organization.
The first step is to identify the IT portfolio, the objectives and the risks involved. Here the
total IT portfolio is analyzed, objectives are set and risks are identified, in order to justify the
presence of a well skilled retained IT organization.

The second step is to design the central and/or decentralized responsibility structure. In this
step the IT governance structure is determined, which has consequences for the location of the
roles within the retained organization. Step three is determining the relevance of the roles,
leading to conclusions about the relevance of the roles and whether certain roles can be
integrated or have to be duplicated. During the fourth step, the ‘right skilled’ individuals have
to be matched with the specific roles. Step five is the implementation and evaluation of the
retained IT organization. In this step the complete operational infrastructure of retained roles,
responsibilities, processes and procedures can be established. After some time it might be
necessary to evaluate its effectiveness.
9 Conclusions and Recommendations

This chapter ends the master thesis with conclusions and recommendations of the research that has been done for answering the research questions stated in the first chapter. The first section discusses the conclusions of the main research question. The second section handles the sub questions sequentially. The last section discusses recommendations for further research that can be considered.

9.1 Main question

What is the organizational structure of the retained organization after IT outsourcing in terms of capabilities and roles and what are the factors, which determine the location and the relevance of those capabilities and roles?

The retained IT organization is the primary source in mitigating risks in order to meet the predefined objectives of IT outsourcing. To accomplish this, it is responsible for:
1. Providing knowledge and expertise to keep organizational as well as intellectual control over the supplier and to stay flexible in the face of unexpected but inevitable technical and business change;
2. Monitoring the supplier to avoid the escalation of costs and to be sure that the services meet the predefined requirements;
3. Managing the relationship, communicating and coordinating with both the external supplier and the internal business and IT staff in order to clarify both parties’ objectives and to leverage the relationship for business and mutual advantage;
4. Maintaining the power balance between the client and the supplier by creating incentives.

The capabilities and roles that have to be retained
Six areas of capabilities have been distinguished to address these four responsibilities, (1) the business area, (2) the contract management area, (3) the leadership area, (4) the project management area, (5) the service management area and (6) the technical area. Within each area different roles can be described.

The business area, consisting of business systems thinking and relationship building, is concerned with defining business strategy and functionality and managing relationships with users. The roles within this area are: the business manager, the information manager, the business analyst and the user.
The contract management area, containing the informed buying and contract facilitation capabilities, is about evaluating the supplier and supplier market and negotiating the contract and contract changes, taking into account all the relevant aspects of the contract including financial, legal, technical and business knowledge. The roles within this area are: the contract manager, the IT financial controller, the IT procurement officer, the legal advisor (outsourced itself or not) and the relationship manager.
The leadership area, consisting of the leadership capability, focuses on IT envisioning and governing and budgeting the service delivery and IT processes at the highest level. The roles within this area are: CEO, CFO, CIO and the IT director.

The project management area consists of the project management capability and is involved with activities such as defining the problem, identifying and planning project activities, minimizing risk and managing the project, the resources and project team members. The role within this area is the project manager.

The service management area consists of contract monitoring. It is involved with performance monitoring and managing the day-to-day relationship with the supplier and users. The role within this area is: the service manager.

The technical area is concerned with the architecture planning capability and is fundamental for the design of the architectural blueprint in order to support the internal and external connectivity of the organization. The roles within this area are: the systems architect, the application architect, the technical architect and the data architect.

The factors determining the location and relevance of the capabilities and roles

These six areas and their corresponding roles form the building blocks of the organizational structure of the retained IT organization that has to be created by the client organization. These areas are always kept in-house some way or another, whatever the situational factors or circumstances may be. However, the location and the relevance of the different roles are to a certain extent variable and the ways in which the roles can be integrated, duplicated and structured are almost infinite and depend on many factors. Two groups of factors are of importance:

1. The first group of factors determines how the retained organization has to be structured and these factors determine the location of the roles. There are three options available, (1) a centralized retained organization, (2) a federal retained organization or (3) a decentralized retained organization. The main factor influencing the choice of the IT governance structure is the corporate governance structure, although there are other factors, which might affect the centralization-decentralization component. These factors are, besides (1) the corporate governance structure: (2) firm size, (3) diversification mode, (4) diversification breadth, (5) exploitation strategy, (6) absorptive capacity, (7) culture and (8) IT heritage.

2. The second group of factors influences the relevance of the roles. We can distinguish the factors relating to:
   - The client organization, consisting of (1) the IT outsourcing strategy, (2) the amount of staff involved, (3) the IT governance structure, (4) the contract value, (5) the contract detailedness, (6) the complexity of business processes and (7) the duration of the contract.
   - The IT service, consisting of (1) the kind of IT service, (2) the complexity, (3) the criticality, (4) the unspecifiability, (5) the immeasurability, (6) the uncertainty and (7) the specificity.
The first group of factors results in decisions about where the roles and their related responsibilities have to be located within the retained organization: centralized, decentralized, or federal, with a shared responsibility.

The second group of factors leads to conclusions about the relevance of the roles and whether certain roles can be integrated or have to be duplicated, depending on their work load and on their location within the organization, which has already been identified. Certain roles will continue to be the same, while some others will become redundant and should be changed. Roles, which are not available within the IT organization, will have to be added.

In order to function as efficient as possible and to be sure that the overhead is minimized, as few staff as possible has to be retained, but of very high quality. Therefore the roles within the relatively small retained IT organization should be high performers. It is an efficiently and coherent functioning organization of interrelated activities and every change may disturb the balance and dramatically decrease its efficiency and effectiveness. Therefore the definition of the responsibilities and the positioning of the different roles within the organization is critical.

9.2 Sub questions

- What are the intrinsic difficulties of IT outsourcing?
- What risks are involved in IT outsourcing?

The real source of most problems arising during the outsourcing relationship between the client and the supplier can be explained by the intrinsic characteristics of IT outsourcing, which tend to make IT outsourcing more complex than other projects. We distinguished the intrinsic outsourcing characteristics into two different groups: (1) intrinsic organizational characteristics and (2) intrinsic IT service characteristics.

**Intrinsic organizational characteristics**

Both the client and the supplier have their own, often conflicting, objectives. The client typically wants the best service(s) at the lowest cost, while the supplier tries to maximize its profit margins by diminishing the operational costs and charging premium prices for new value added services.

Another issue contributing to difficulties between the client and the supplier is the different timing of benefits. The first-year benefits for the client are clear; usually the client receives a one-time capital payment and feels relieved to shift its problems and issues to another organization. Moreover, the payments in the first year occur in an environment in which the expectations and outputs most closely resemble those anticipated in the contract, while in each subsequent year, the contract payment stream becomes less and less tied to the initial set of planned outputs and becomes more subject to misunderstanding and negotiation. The situation from the supplier's perspective on the contrary is just the reverse. During the first year, there is a heavy capital payment followed by extraordinary costs for switching responsibility and executing appropriate cost-reduction initiatives. All this is done with the
expected future profit flow in mind. Unfortunately, almost at precisely the time the supplier is finally moving into its earnings stream, the client, who may feel the need for new services, is chafing under monthly charges and anxious to move to new IT architectures. Also cultural differences between people and between both parties can cause misunderstanding and mistrust.

**Intrinsic IT service characteristics**

There are several intrinsic characteristics, which distinguish IT outsourcing from other forms of outsourcing. Most important is that IT pervades, affects and even shapes most organizational processes in some way, which makes it a very critical and important part of the company. Outsourcing is difficult because suppliers do not always understand the implications that IT has for other business processes. This is even more complicated because of the fact that information technology is not homogeneous, but comprises a wide variety of activities.

Another problematic fact is the incredible speed at which the IT capabilities continue to evolve, which makes it wary difficult to predict the future IT needs. The difficulty of estimating the value of IT activities and the often large switching costs involved are also issues involved.

As we see, an IT outsourcing contract is a compromise between two elements:

1) The necessary detailedness in order to secure that both parties, with their different objectives, meet their obligations towards each other;
2) The necessary flexibility in order to anticipate for the quickly evolving business and IT changes and needs.

The combination of these two factors give rise to conflicts and seem to be the real intrinsic source of problems and difficulties, out of which all risks seem to evolve. These IT outsourcing risks can broadly be categorized into three groups, namely:

1. Escalation of costs, due to unexpected, underestimated or hidden costs (financial risk);
2. Loss of internal competencies (business risk);
3. Degradation of the delivered services, which do not meet the predefined requirements (technical risk).

- In what way is the theoretical framework of core capabilities revised?
- Which of the studied existing methods/ models corresponds best to the described retained roles after IT outsourcing?

By means of information extracted from the conducted interviews (with Aegon, CSM, Eneco, SVB and Xerox) and from the integrated IPWTM model, the theoretical framework of Feeny and Willcocks has been revised.

The IPW model has been chosen for several reasons. First, it integrates five well-known existing methods/ models, namely (1) ITIL, (2) ASL, (3) Prince2, (4) ISPL and (5) CMM, which makes it more complete than any of the other individual methods and models.
Second, the integrated IPW™ model makes a clear distinction between the business domain, the ICT domain and the supplier domain, also identifying the processes within the IT organization to align those three domains.

Third, the alignment of the capabilities with processes is very useful in this case, as processes, in comparison with capabilities, more clearly specify the retained activities, giving a distinct picture of how to link certain activities to a specific individual role.

The five companies have been chosen because they all did have a relatively long experience with IT outsourcing, which makes a stable, efficiently and effectively functioning retained organization most likely.

Two capabilities, ‘vendor development’ and ‘making technology work’ have been removed, while the ‘project management’ capability has been added to the framework.

The ‘making technology work’ capability does not have to be retained by the client, as it is both technical and operational and therefore the responsibility of the supplier. This is confirmed by all five interviews and by the IPW model, which does not recognize a process that corresponds to the ‘making technology work’ capability.

The ‘vendor development’ capability has to be maintained but cannot be distinguished as a specific role. Creating added value happens at each level and in each management area and this specific capability can be incorporated within all the other capabilities. Moreover, ‘vendor development’ is not a specific characteristic capability for IT outsourcing and therefore this capability is excluded from the framework. Again, this is confirmed by all five interviews and by the IPW model, which does not recognize a process that corresponds to the ‘vendor development’ capability.

The capability ‘project management’, on the contrary, is added to the framework. Project management is the application of knowledge, skills, tools, and techniques to plan and execute activities that meet or exceed client needs and expectations from a project. The retainment of this capability is confirmed by the five interviews we conducted and by the IPW model, which recognizes two processes that correspond to the ‘project management’ capability.

It turns out that the Information Services Procurement Library (ISPL) corresponds best to the described retained roles after IT outsourcing. It covers all six areas we defined, although ISPL does not describe the roles as explicitly as we did. Moreover, the focus of ISPL is not on IT outsourcing, but on IT procurement, which has a more temporary nature, making it therefore less suitable for outsourcing.

- How do the factors influence the location of the roles within the retained organization?
- How do the organizational and service factors influence the relevance of the roles within the retained organization?

The location of the different roles depends on the IT governance structure. There are three options available, (1) a centralized retained organization, (2) a federal retained organization or (3) a decentralized retained organization. The main factor influencing this decision is the corporate governance structure, although there are other factors, which might affect the
centralization-decentralization component. These factors, (1) diversification mode, (2) diversification breadth, (3) exploitation strategy, (4) absorptive capacity, (5) culture and (6) IT heritage, might transform the IT governance structure of either a centralized, or a decentralized organization into a federal one and the federal structure into a centralized or decentralized one. It turns out that there is a trend towards the federal structure and this is therefore the recommended one, as this structure integrates the advantages of both the centralized and decentralized IT governance structure. Moreover, the retained organization has to be small with as few staff as possible. High integration of activities, combined with high specialization provides the best result. This can be realized by the federal IT governance structure.

The relevance of the different roles is influenced by several factors. Those relating to the client organization, consisting of (1) the IT outsourcing strategy, (2) the amount of staff involved, (3) the IT governance structure, (4) the contract value, (5) the contract detailedness, (6) the complexity of business processes and (7) the duration of the contract. And those relating to the IT service, consisting of (1) the kind of IT service, (2) the complexity, (3) the criticality, (4) the unspecifiability, (5) the immeasurability, (6) the uncertainty and (7) the specificity.

Except for the IT governance structure, all the factors do have a positive relationship, which means that a higher value of the factor will result in a higher relevance of a specific role. This can be explained by the fact that even the simplest retained organization should already be of high quality and can only become more important and critical when one or more of the above mentioned factors are present.

- Which steps can be identified to implement the roles within the retained organization?
- What is the output of each step?

Although the construction of a design method does not contribute to resolving the main research question, it is used to integrate the research information in a logical way. Five steps can be identified to establish the retained organizational infrastructure in terms of roles and responsibilities. Those are:

**Step 1:** **Identify the IT portfolio, the objectives and the risks involved:** Here the total IT portfolio is analyzed, objectives are set and risks are identified, in order to justify the presence of a well skilled retained IT organization.

**Step 2:** **Design the central and/or decentralized responsibility structure:** In this step the IT governance structure is determined, which has consequences for the location of the roles within the retained organization.

**Step 3:** **Determine the relevance of the roles:** This step leads to conclusions about the relevance of the roles and whether certain roles can be integrated or have to be duplicated.

**Step 4:** **Match the ‘right skilled’ people with the roles:** During this step, the ‘right skilled’ individuals have to be matched with each specific role.
Step 5: Implement and evaluate the retained IT organization: In this step the whole operational infrastructure of retained roles, responsibilities, processes and procedures can be established. After some time it might be necessary to evaluate its effectiveness.

9.3 Recommendations

This paragraph will list several recommendations for future research regarding the subject under investigation, the retained organization after outsourcing.

- In order to analyze the effectiveness and efficiency of the retained organization, it might be interesting to identify the relevant factors and the criteria that determine the relevance of those factors. In this way, it becomes possible to compare the differences between organizational structures and their possible or potential inefficiencies.

- The way information technology, such as ERP and SCM software, can contribute to a more efficient working retained IT organization, might also be a topic for further research. Supply Chain Management (SCM) is an integrated process for managing all levels of the flow of information from the organization to its suppliers and customers. Enterprise Resource Planning (ERP), is software, that integrates the various functions of an organization based on sharing of data in common databases that, when processed, generates relevant management information for purchasing departments, manufacturing, sales, delivery and related internal processes. In principle, ERP software is capable of running an organization as an integrated operation.

- There are several forms of outsourcing, such as ASP and BPO and there might well be differences in the retention of staff between those specific forms. An ASP, Application Service Provider, is a company that offers individuals or organizations access over the Internet to applications and related services that would otherwise have to be located in their own personal or organizational computers. BPO, Business Process Outsourcing, involves outsourcing of specific business processes. In certain industries, design, manufacturing, inspection, and logistics may be outsourced. More recently, BPO has come to include internal, "back-office" functions such as internal audit, finance, billing, accounting and other operations support. BPO "front office" functions may include customer relationship management, with sales, call centers and fulfillment services. It might be interesting to see whether the proposed framework of core capabilities (and corresponding roles) is also applicable to other forms of outsourcing, such as ASPs and BPO.
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Books


Presentations

The Retained Organization after IT Outsourcing

**Websites**


Outsourcing Law


SVB, [www.svb.nl](http://www.svb.nl), November 2003.


**List of people interviewed**

<table>
<thead>
<tr>
<th>Company</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aegon</td>
<td>Mr. J.C.M. van Rooden (Director Business IT Development and Innovations)</td>
</tr>
<tr>
<td>CSM</td>
<td>Mrs. I. Regien (CIO)</td>
</tr>
<tr>
<td>Eneco</td>
<td>Mr. J.D. Houtman (Contract Manager)</td>
</tr>
<tr>
<td>SVB (Sociale verzekeringbank)</td>
<td>Mr. U. Groen (Member of the Executive Board – ICT and Organization)</td>
</tr>
<tr>
<td></td>
<td>Mr. R. Wortel (Contract Manager)</td>
</tr>
<tr>
<td>Xerox (former employer)</td>
<td>Mrs. P. van Spronsen (Former Contract Manager)</td>
</tr>
</tbody>
</table>
### Appendix I: Objectives and Risks of IT Outsourcing

<table>
<thead>
<tr>
<th>IT outsourcing objective(s)</th>
<th>Advantage(s)</th>
<th>Risk(s)</th>
</tr>
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<tbody>
<tr>
<td><strong>Financial</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost reduction</td>
<td>-Cost savings on equipment and staffing.</td>
<td>-Obsolete technology so supplier can achieve economies of scale.</td>
</tr>
<tr>
<td></td>
<td>-Access to technology without capital investment</td>
<td>-Costs not reduced, only deferred.</td>
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<tr>
<td></td>
<td></td>
<td>-Locking in to one supplier without the ability to take the program in-house or switch to another supplier will cause price increases when the contract has to be renewed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Unanticipated change may be costly.</td>
</tr>
<tr>
<td>Changing Fixed into Variable Costs</td>
<td>-Costs made more variable and viable as predetermined amounts go to the supplier, who buys material and equipment.</td>
<td></td>
</tr>
<tr>
<td>Cash infusion</td>
<td>-Direct cash infusion for resources</td>
<td></td>
</tr>
<tr>
<td><strong>Business</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Focus on core competence</td>
<td>-More resources and attention focused on what the organization does best.</td>
<td>-Supplier is less competent than believed and the coordination requirements higher than anticipated.</td>
</tr>
<tr>
<td></td>
<td>-IT can focus on new areas of development, core processes and adding distinct value.</td>
<td></td>
</tr>
<tr>
<td>Commercial Exploitation</td>
<td>-Improve the return on IT investment by generating new revenue and profit or by offsetting costs.</td>
<td>-Core processes may change over time.</td>
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<tr>
<td></td>
<td></td>
<td>-Loss of control over day-to-day decision-making</td>
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<td></td>
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<td>-Less flexibility</td>
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<tr>
<td></td>
<td></td>
<td>-Organizational resistance to change is not overcome. Supplier unable to achieve change; situation worsens.</td>
</tr>
<tr>
<td>Organizational change</td>
<td>-Outsourcing supplier brings better capabilities to implement technology and organizational change.</td>
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<tr>
<td>Flexibility and continuity</td>
<td>-The supplier can guarantee the quality and capacity of its IT staff over a certain period of time</td>
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<tr>
<td><strong>Technical</strong></td>
<td></td>
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<tr>
<td>Technological improvement</td>
<td>-Provides access to expert knowledge in old and new technology areas</td>
<td>-Supplier is less competent than believed and the service deteriorates.</td>
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<td></td>
<td>-Can be leveraged to respond quickly to legislative mandates, new technologies, and new business needs</td>
<td>-Obsolete technology so supplier can achieve economies of scale.</td>
</tr>
<tr>
<td>Access to technical expertise</td>
<td>-In-house projects can be finished</td>
<td>-Supplier is not as specialized as the former internal staff.</td>
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<td></td>
<td>-No difficulties in hiring and maintaining qualified employees</td>
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<td></td>
<td>-Less managers</td>
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<tr>
<td>Access to new technologies</td>
<td>-Immediate access to new IT capabilities can be a distinct advantage in a competitive market</td>
<td></td>
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</table>
Appendix II: Integrated IPW™
### Appendix III: The Alignment of the 6 Retained IT Areas with Existing Roles

<table>
<thead>
<tr>
<th>Area</th>
<th>Methods</th>
<th>IPW process</th>
<th>ISPL</th>
<th>ITIL</th>
<th>Prince2</th>
<th>CoBit</th>
<th>ASL</th>
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<tr>
<td><strong>Leadership area</strong></td>
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<td>Centralized business activities such as:</td>
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<td>Business support</td>
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<td><strong>Contract management area</strong></td>
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<td>Commercial policy</td>
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<td>Supply management</td>
<td>-Contract authority</td>
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<td>-IT manager</td>
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<td>Contract management</td>
<td>-Legal authority</td>
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<td>Purchase management</td>
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<td><strong>Service management area</strong></td>
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<td>Service level management</td>
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<td>Other processes such as change control, problem control</td>
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<td><strong>Project management area</strong></td>
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<td>Service built and design</td>
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<td><strong>Technical area</strong></td>
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<td>Architecture</td>
<td>Technical expertise</td>
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<td>Senior supplier</td>
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</table>
The Retained Organization after IT Outsourcing

Appendix IV: The Federal Retained Organization

Corporate staff
-Monitors supplier performance
-Manages contracts
-Reviews invoices
-Manages supply and demand
-Mediates disputes
-Coordinates among multiple suppliers
-Manages finances
-Negotiates additions
-Explores new dimensions to the relationship
-Benchmarks costs and performance
-Develops IT strategies

Business units
-Monitor local SLAs
-Help define user requirements
-Help explain cost/service trade-offs of IT options
-Work with users and suppliers through change management processes
-Interface with the centralized contract management team

The diagram shows the organizational structure with roles such as CEO, CFO, IT Director, CIO, IT procurement officer, IT financial controller, IT procurement manager, IT manager, Service manager, Business manager, User, Business analyst, Information manager, Auditor, Consultant, Legal advisor, and IT staff roles like Systems architect, Project manager, Application architect, Contract manager, Application architect, Technical architect, Data architect, Service manager infrastructure, Service manager office automation, Service manager applications, Relationship manager.
Appendix V: Interview Questionnaire

INTERVIEW

A Beginwaarden

1. Wat en hoeveel is geoutsourced (qua hoeveelheid en soort IT services, contractwaarde)?

2. Wat is het doel van de IT outsourcing geweest?

3. Hoeveel is overgedragen en hoeveel is achtergebleven (qua personeel)?

B Rolen en structuur

1. Hoe ziet de organisatiestructuur van de regieorganisatie eruit (interrelationships, centraal/decentraal/ of combinatie, hoeveelheid verticale managementlagen)?

2. Welke rollen en verantwoordelijkheden zijn achtergebleven?

<table>
<thead>
<tr>
<th>(Feeny and Willcocks, 1998)</th>
<th>Rollen (en aantal)</th>
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</thead>
</table>
| **1. Leadership**           | -Establishes and maintains executive relationships  
                             -Strives to achieve shared and challenging vision of role of IT in the business  
                             -Develops the culture and orientation of the IT function  
                             -Searches for and promotes best practice in information management |
| **2. Business Systems Thinking** | -Contributes to development of business strategy and operation  
                                 -Identifies/ communicates current patterns of organization and activity  
                                 -Envisions potential new patterns  
                                 -Identifies connections and inter-dependencies |
| **3. Relationship Building** | -Develop user understanding of potential of IT  
                               -Helps users and IT specialists to communicate and work together  
                               -Ensures user ownership and satisfaction |
| **4. Architecture Planning** | -Analyses trends in development of a range of technologies  
                               -Develops vision of integrated technical platform  
                               -Formulates policies to ensure necessary integration and flexibility of IT services |
| **5. Making Technology Work** | -Focused on action and problem-solving  
                                 -Understands internal design of IT systems  
                                 -Delivers very high programming productivity  
                                 -Comfortable with wide range of technical regimes |
| **6. Informed Buying**       | -Monitors available services of external suppliers  
                               -Analyses nature of service requirements for immediate and longer term |
| **7. Contract Facilitation** | - Structures tendering process  
- Oversees contract negotiations |
|-------------------------------|----------------------------------------------------------------------------------|
| **8. Contract Monitoring**   | - Facilitate/ manage people relationships  
- Devise/ pursue processes for conflict resolutions  
- Interpret business and technical issues within established contract framework |
| **9. Vendor Development**    | - Monitoring results against goals  
- Benchmarking existing contracts against developing market capability  
- Negotiating detailed amendments  
- Identifying/ protecting against potential precedents |
|                               | - Analyzing emerging structure of services market  
- Assess specific suppliers, goals and capabilities  
- Explores potential for new supplier services  
- Identifies opportunities for added value to business and supplier |

3. Wie heeft contact met de supplier (hoe vaak en waarover)?

4. Zijn er andere rollen die (slechts af en toe) noodzakelijk zijn en bijvoorbeeld worden ingehuurd (legal expertise)?

**C Factoren die een rol spelen bij inrichting van de retained organization**

1. Welke factoren spelen een rol bij het zo inrichten van de retained organization?

<table>
<thead>
<tr>
<th><strong>Objective</strong></th>
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<tr>
<td><strong>Number of transitioned staff</strong></td>
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<tr>
<td><strong>Kind of IT service</strong></td>
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<td><strong>Criticality</strong>: the degree to which the continuity and availability of the IT is essential to the client</td>
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<td><strong>Measurability</strong>: whether the client can determine objectively and relatively easily whether the delivered services meet the predefined requirements</td>
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<td><strong>Interconnectedness</strong>: the number and complexity of relationships between the systems affected by the delivered services</td>
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<td><strong>Specificity</strong>: the degree to which a system is specific for the client and needs investments by the supplier that can not be re-used for other clients or activities</td>
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<td><strong>Volume uncertainty</strong>: the lack of information about future changes in the use of the required volume of resources</td>
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<td><strong>Technical uncertainty</strong>: the amount of uncertainty about future technological developments and the consequences for the organization</td>
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<tr>
<td><strong>Variability</strong>: the expected amount of change in volume and functional and technical requirements of the used systems.</td>
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<td><strong>Distribution</strong>: the geographical dispersion of IT components.</td>
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<td>Specifiability:</td>
<td>whether the functional and technical requirements can be specified in enough detail and in advance.</td>
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<tr>
<td>Heterogeneity:</td>
<td>the variety of the types of IT components that are in use or are needed.</td>
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<td>Standardization:</td>
<td>the degree to which the IT services are standardized.</td>
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<td>Pricing mechanism:</td>
<td>the way the price the client has to pay to the supplier is determined</td>
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</table>

2. Hoe was het verloop van het inrichtingsproces (bijvoorbeeld verschil met oude organisatiestructuur) en waren er (bijzondere) ontwikkelingen in dat proces?

3. Welke ontwerpmethode zijn gebruikt (ITIL, ASL, Prince2, ISPL and Cobit)?

4. Welke problemen zijn ondervonden met betrekking tot regie en sturing?